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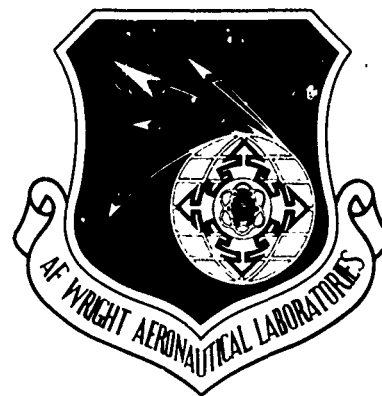
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PARAMETRIC BLADE STUDY TEST REPORT
ROTOR CONFIGURATION NO. 4



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November 1988

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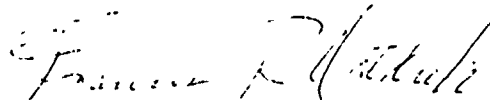
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This technical report has been reviewed and is approved for publication.



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Report Rotor Configuration No. 4

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PREFACE

This report was prepared by Dr. C. Herbert Law and Steven L. Puterbaugh of the Technology Branch, Turbine Engine Division, Aero Propulsion Laboratory, Air Force Wright Aeronautical Laboratories, Wright-Patterson AFB, Ohio. The work was accomplished between 1 January 1987 and 31 May 1988. This work could not have been so successfully accomplished without the expert technical assistance of Dr. Arthur J. Wennerstrom, Mr. Robert D. DeRose and Mr. Robert Wirrig.

This report represents results from a portion of the effort of the Compressor Research Group, supervised by Dr. Arthur J. Wennerstrom, and was conducted under Work Unit 27, Task S1, of Project 2307, "Turbomachinery Fluid Mechanics."

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SECTION I

INTRODUCTION

This report presents the results of an experimental evaluation of one compressor test of a series of design parameter investigations. In total, eight rotor design configurations (including one baseline and seven variations) and two stator design configurations (including one baseline and one variation) were included in the study. The rotor/stator configuration which was considered as the baseline compressor configuration was initially described in Reference 1 ("Redesign of a Rotor for a 1500 ft/sec Transonic, High-Through-Flow, Single-Stage Axial-Flow Compressor with Low Hub/Tip Ratio," September 1979). That compressor configuration was designated the "BASELINE" and subsequently referenced and compared with the other configuration designs and test results to determine specific design parameter effectiveness.

The primary purpose of the "Parametric Blade Study (PBS)" was to investigate the effects of specific rotor blade design parameters on the performance of one compressor configuration of current interest with state-of-the-art performance. It was the intent of the program to vary only one design parameter at a time, keeping the other parameters as closely as possible to their original baseline design values. Specifically, rotor configurations numbered 1 and 2 were designed to investigate the effectiveness of the chordwise location of maximum blade thickness on rotor performance. Rotor configurations numbered 3 and 4 were designed to investigate the effect of the suction surface shape ahead of the

leading edge passage shock on performance and to determine the interrelation of the suction surface shape and the cascade throat area. Rotor configuration number 5 was designed to determine the influence on performance of "effective camber" of the blade, or loosely to determine the circulation capacity of the cascade. Finally, rotor configurations numbered 6 and 7 were designed to investigate the potential gain in rotor performance through the introduction of effective aerodynamic leading edge sweep and accompanying reduced shock strength and associated losses.

The overall objective of this study was to perform the aerodynamic design of a series of seven transonic compressor rotors, all parametrically related, fabricate and test all of the rotors (plus re-test the original baseline rotor) and compare their performances to the baseline compressor rotor. The baseline rotor and each of the seven parametrically similar rotors are described as high-through-flow, high-aerodynamic-loading, low hub/tip ratio first stage compressor or fan rotors. The original baseline hub, case, and leading/trailing edge envelope was preserved to the maximum extent practical. All designs were accomplished using comparable computer design systems, all hardware was manufactured by the same contractor using identical fabrication specifications, and all experimental tests were conducted in the same test facility using the same instrumentation and data acquisition system, and under similar environmental conditions.

SECTION II

DESIGN APPROACH

In an attempt to define the effect of the suction surface shape ahead of the leading edge passage shock, and the interrelation of the suction surface shape and the cascade throat area, on rotor blade performance, PBS rotor configurations numbered 3 and 4 were designed to have smaller throat areas in the outer 80 percent of the blade than the baseline rotor. While the throat areas of the PBS #3 and 4 rotors were essentially the same, the PBS #4 blade had somewhat less external compression and somewhat more internal compression. As a result, the PBS #3 blade had greater suction surface (and meanline) curvatures in the region of the cascade mouth than did either the PBS #4 or the baseline rotors. The shape of the blade suction surface ahead of the leading edge passage shock influences the average Mach number just ahead of the shock. Increasing the suction surface angle ahead of the shock reduces the average Mach number (and reduces the shock losses?), but also reduces the cascade throat area. Care must be taken to maintain sufficient throat margin to pass the desired flow while obtaining the best efficiency.

Using the "data match" baseline rotor design described in the Parametric Blade Study report introductory volume (Reference 2, "Transonic Fan/ Compressor Rotor Design Study," Volume I, February 1982) as the starting point for the new design, the blade meanline departure angles were adjusted to achieve the desired suction surface contour in the forward part of the blade and yet maintain

sufficient throat area to pass the desired flow. A higher efficiency was assumed for the outer 80 percent of the flow since it was assumed that the PBS #3 and 4 blades should have reduced shock losses and increased efficiencies in this region. The level of static pressure was higher in the outer portion at the rotor exit as a result of the assumed higher efficiency and consequent reduced energy input. The assumed chord-wise distribution of work was iteratively adjusted to obtain the desired chord-wise distribution of static pressure. A method of characteristics computer program was used to analyze the flow in the cascade flow induction regions to assure that the rotors would achieve the design flow. A throat margin of approximately 5 percent was maintained in the outer 80 percent of the blade. Specific details concerning the design procedure, the design computer program, and blade aerodynamic and structural characteristics may be obtained from the design report (Reference 3, "Transonic Fan/Compressor Rotor Design Study," Volume V, February 1982).

SECTION III

TEST APPARATUS

1. FACILITY FLOWPATH

The test facility used is of the closed-loop variety shown schematically in Figure 1. In the loop, air passes through the 30-inch diameter inlet duct to a Universal Venturi Tube located six pipe diameters downstream of the return tube 90-degree elbow. Two pipe diameters further downstream, the air is turned 90 degrees with the aid of turning vanes. Screens are installed perpendicular to the pipe axis just above the elbow, and in the trailing edge plane of the turning vanes to prevent feedback related to flow separation on the turning vanes from reaching the venturi. Following the elbow, the flow passes through a tube bundle and subsequently enters a 48-inch diameter settling chamber. The settling chamber contains a perforated conical flow spreader and two screens. From the settling chamber, air enters the compressor through a direct-coupled bellmouth. Air leaving the compressor is deflected radially outward to a peripheral throttle. The throttle consists of one stationary and one rotating cylindrical ring, each with 16 circumferentially distributed matching holes. Throttling takes place at a diameter of approximately 47 inches. The throttle is designed to vary continuously from fully closed to fully open. Position indication varies linearly with throttle open area and has a resolution of one part in 200. Downstream of the throttle, the flow enters a collector, from which it is passed through a 24-inch diameter duct to the heat exchanger and filter. Cooling of the air

is accomplished using a circulating water, finned-tube heat exchanger. The air is filtered to remove five micron particles with a 99.5 percent efficiency. After passing through the heat exchanger and filter, the air returns to the facility through the 30-inch diameter inlet duct. The air is turned 90 degrees with the aid of turning vanes before entering the heat exchanger vessel and again before entering the inlet duct. Upstream of the heat exchanger a perforated conical flow spreader is installed to uniformly distribute the air across the entire heat exchanger/filter grid.

For this test, a modification was made to the facility throttle to increase the flow capacity and decrease the back-pressure at the wide-open throttle position. Eight large holes were drilled in the throttle plate to reduce the metal blockage area by 50% (wide-open position). Cover plates were fabricated to cover the holes when not needed. During this test, it was discovered that there was a slight gain in flow capacity with all (except one, which was difficult to remove and replace because of limited access) cover plates removed. However, with the throttle in this configuration, recovering from surge (by opening a surge valve to bypass the throttle) was slow or impossible at high rotating speeds without first opening the throttle some amount. A test procedure was hence adopted to obtain a compressor map in two phases. The first phase was conducted with one throttle cover plate installed to get the high-flow end of each speed line on the compressor performance map, being careful to avoid the surge-line at all speeds. The second phase was conducted with four throttle cover plates installed (distributed uniformly around the

circumference) to get the mid-flow and low-flow ends of each speed line and to determine the surge-line at all speeds. Data were taken at each speed line during both test phases to sufficiently map the compressor performance at each speed with some overlap of throttle settings to assure that continuous and consistent results were obtained. This test procedure was used for all PBS rotor configurations investigated.

2. COMPRESSOR TEST VEHICLE

A cross-section of the research compressor is shown in Figure 2. The design employs a cantilevered rotor supported by four 0.5-inch-thick bearing support struts with leading edges located about two stator chord lengths downstream of the stator trailing edge plane. The rotor tip diameter is nominally 17 inches. Cold radial tip clearance with the rotor at rest was nominally 0.030 to 0.045 inches, depending on the rotor configuration and axial location. Hot clearance was measured with an active, non-touching spark-gap type clearance measuring system at the rotor leading edge and mid-chord regions at two circumferential locations. The average hot clearance at design speed was found to be approximately 0.020 to 0.025 from leading to trailing edge for all rotor configurations, or about 0.6 percent of the rotor tip chord. The variation of rotor tip clearance with rpm is shown in Figure 2. The rotor shaft is mounted on an oil-damped roller bearing at the forward location and a ball bearing at the aft location; radial runout does not exceed 0.001 inch. Forward and aft buffer controlled gap carbon seals were used and no oil leakage into the flowpath was detected. This

configuration uses no inlet guide vanes. Surface finish on all surfaces adjacent to the flow upstream of the bearing support struts is 32 microinches or better. The rotors were all of integral construction, the blades and discs being machined from single forgings of 6Al-4V titanium (one forging per rotor configuration). The stator was fabricated as an integral ring machined from AMS 5616.

3. COMPRESSOR INSTRUMENTATION

Aerodynamic instrumentation in the compressor consists of measuring probes in the stator leading edges for total pressure and temperature, rakes downstream of the stators for total pressure and temperature, static pressure taps on the inner and outer flow paths, dynamic pressure measurements along the casing wall over the rotor tip, and dynamic strain gage measurements at several points on the rotor blades. Measurements of inlet total pressure and temperature, mass flow, relative humidity, and rotor speed are accomplished outside the compressor and are discussed below. The compressor research vehicle has a total of 276 sensors measuring aerodynamic parameters at various points throughout the stage. Some static pressures are sensed at more than one point around the circumference at the same axial location and are either manifolded together or mathematically averaged to obtain a single measurement at the axial station. The specific instrumentation used is summarized in Table 1.

a. Temperature Measurements

(1) Location

A total of eighty-nine thermocouples are used to sense aerodynamic temperature within the compressor. Nine are mounted in the vane leading edges and eighty are located in ten discharge-plane rakes. The vane leading edge and rake mounted thermocouples are of the slot vented type shown in Figure 3. The discharge-plane rakes each have eight sensors, spaced at centers of equal area radially, while the rakes are uniformly distributed around the circumference and spaced to divide a single exit vane passage into ten equal parts. The nine stator leading edge thermocouple probes are distributed on two vanes; one having four sensors and the other having five. The sensors are uniformly spaced to radially divide the area between the hub and case into nine equal parts and are aligned with the anticipated pitch angle of the flow.

(2) Calibration

All thermocouples were fabricated from shielded three-eighths percent chromel-constantan (type E) wire. Sample thermocouples, constructed in the same manner as those mounted in the rakes and probes, were sequentially taken along the wire rolls at the start, in between, and at the end of each length of wire used. An initial calibration of these samples was made using as

standards a water triple point apparatus and two metal melting point baths (one each of indium and tin).

The absolute accuracy of the temperature standards, manufactured by the Yellow Springs Instrument Company, Yellow Springs, Ohio, are 0 degrees Celcius for the water triple point and less than 0.0015 degrees Celcius for the two metal melting point furnaces. It should be noted that each of these values are "defining points" on the International Practical Temperature Scale of 1968. The small error associated with the metal melt points can be attributed to slight differences between the ones used at this facility and the similar systems employed at the National Bureau of Standards which uses the freeze points rather than the melting points of the same metals. Stem conduction errors for thermocouples calibrated in these furnaces are so small as to be immeasurable because the actual junction is located several hundred wire diameters within the furnace.

All thermocouples are connected to Kaye Co. electronic ice points used as the 0 degree Celcius reference and have no intermediate metals in the circuit. The individual outputs are carried to the computer input circuitry via copper twinax conductors.

During experimental data reduction, the calibration data are used to construct a potential difference (NBS potential minus observed potential at the calibration temperatures) verses observed potential curve. The raw data are then converted into

engineering units by utilizing the calibration curve to establish a corrected value of the potential with which to enter the NBS reference tables. Although the thermocouples were referenced to 32 degrees Fahrenheit, this value can vary as long as the reference temperature is stable during a data scan (a small fraction of one second). The accuracy of the temperature measurements have been determined to be no worse than approximately plus or minus 1/4 degree Fahrenheit, excluding any recovery factor correction.

b. Pressure Measurements

(1) Location

A total of one hundred and twenty-five pressures are measured in the vehicle flowpath; thirty-six static pressures and eighty-nine total pressures. All of the thirty-six static taps are distributed on the compressor flowpath liners; twenty-four taps are located on the case and twelve are located on the hub. In all, casing static pressure measurements are made at fifteen axial locations (some of the measurements are averaged from multiple taps distributed uniformly around the circumference); twelve of these are located over the rotor tip, starting approximately 0.50 inch axially forward of the leading edge and following at 0.25 inch axial increments downstream. The twelve hub static taps are distributed at three axial locations; one located in the gap between the rotor disc and the stator hub and the other two downstream of the stator exit.

Nine total pressure probes are mounted on the leading edge of two stator vanes, four probes on one vane and five on the other vane. The probes are located at the same radii as the stator leading edge total temperature probes and aligned with the anticipated pitch angle of the flow. All total pressure probes are of the Kiel stagnation tube design. The discharge-plane rakes each have eight probes, each at the same radius as the discharge-plane total temperature probes. discharge-plane total pressure rakes are also uniformly distributed around the circumference and spaced to divide a single exit vane passage into ten equal parts.

Located in conjunction with the static pressure taps placed over the rotor blade tips are twelve XTS-type Kulite dynamic pressure transducers. These transducers are recessed slightly in the METCO 601 (polyester aluminum) blade tip rub shroud on the casing adjacent to the rotor tip to prevent damage by a minor rotor rub. The transducers were referenced to local atmospheric pressure.

(2) Calibration

The pressure data acquisition system consists of ten ZOC modules ("ZOC" is an acronym of the Scanivalve Corporation, San Diego, California for "Zero, Operate, and Calibrate;" each containing sixteen individually accessible transducers), a calibration unit, and a system microprocessor. Each ZOC module contains a pneumatic switching device which permits the calibration pressure selected by the calibration unit to be supplied to all transducers in the module simultaneously. Three accurately measured

(through independent high-accuracy sensors described below) calibration pressures (nominally 9 psia, atmospheric, and 15 psig) are recorded by the system during each data scan. The non-atmospheric calibration pressures are supplied by Ametek Model PK-30 self-regulating, primary deadweight type, pressure standards. The 9 psia pressure standard is enclosed in a sealed container which is kept at 100-200 microns Hg absolute pressure. Atmospheric pressure is used to correct to 15 psig calibration pressure to an absolute value. The three calibration pressures are monitored and recorded using a SONIX (Pressure Systems Incorporated, Hampton, Virginia) transducer and display unit. The SONIX transducer, model PS1050, has a pressure range of 4-50 psi with an achievable accuracy of plus or minus 0.01 percent of full scale over the full pressure range and a temperature range of -25 to 70 degrees Celcius. During a pressure calibration data scan (for this test, every data scan included pressure calibration data), outputs from the SONIX system were recorded and used to create calibration curves for all ZOC transducers.

The basic ZOC pressure scanning system is different from the single transducer/multi-port scanning valve system used previously. The ZOC system dedicates a pressure transducer to each data channel and provides a sensor output to the host computer several times per second. A controller automatically switches all ZOC modules from "operate" to "calibrate" and switches the calibration pressures during each data scan. The time required to record a test point which includes pressure calibration data takes less than one minute. Temperature stability of the ZOC modules is

maintained thru use of individual warm water constant temperature insulating jackets. Since the calibration pressures, supplied by low-flow dead weight testers, are switched into a common manifold, the bulk of this time is spent waiting for pressure stabilization to occur. Stabilization is determined by the host computer based on calibration manifold pressure readings given by the SONIX transducers. The acquisition of experimental data (excluding pressure calibration data) takes less than 2 seconds and is done at the beginning of a scan. This allows the test article operating point to be changed before the entire data scan is completed. By combining the time required for calibration data collection with the time required for test article thermodynamic stabilization, a greater number of test points for a given length of time can be accomplished.

c. Data Acquisition System

Test article performance and calibration data are collected by the Data Acquisition System (DAS). The DAS is comprised of a MODCOMP MODACS digital and analog I/O subsystem, a MODCOMP ATC communications I/O subsystem, and a high frequency analog data recording subsystem, all controlled by a host computer. The host computer is a MODCOMP Classic II/15 16-bit microprocessor with 512 kbytes of memory. Additional peripherals include 40 MB of disk space, a magnetic tape drive, a high speed line printer, a system console, and two user consoles. The operating system is MODCOMP's real-time, multi-tasking MAX IV OS.

The MODACS is a modular I/O system configured for the facility's specific needs. The information which passes through the system includes thermocouple voltage input, test article rpm input, control I/O for the tape search unit and pulse processing unit of the analog recording subsystem, channel select for analog tape digitization, and voltage output for speed control and performance map display.

The ATC is a serial communications device for up to 12 RS-232 and 4 current loop terminal-type devices. Five devices are currently connected to the ATC, including two user consoles, the ZOC pressure data acquisition subsystem, the SONIX pressure data acquisition subsystem, and a local area network port.

The high frequency analog recording subsystem consists of a Bell and Howell model VR-3700B 14-track analog tape deck, a Datachron model 3030 tape search unit, a Honeywell model SAI-48 Correlator and Signal Averager, and a custom pulse processing box. This system is used to record and digitize output from Kulite dynamic pressure transducers and blade-mounted strain gages.

All DAS software was developed in-house and is comprised of a group of tasks, the vast majority of which was written in FORTRAN IV, with the remainder written in MODCOMP Assembler language. Capabilities include real-time update of test article performance parameters, automated data recording, and DAS health monitoring. The DAS, software, and all pressure and temperature

measurement systems employed in these tests are new and the subject of a detailed accuracy and reliability analysis and report to be published at a later date.

4. TEST FACILITY INSTRUMENTATION

a. Rotor Speed

A Bentley Model 306 transducer senses six grooves machined into the gearbox/rotor driveshaft coupling. The output is fed into a Model 3115 proximator for signal conditioning. The proximator signal is a train of pulses having a repetition rate corresponding to rotor RPM/10. This repetition rate is directly recorded by the DAS. An Airpax Model Tachtrol 3 tachometer (Airpax Division of North American Phillips, Ft. Lauderdale, Florida) provides a visual indication of rotor speed accurate to ten RPM. The tachometer also includes an adjustable speed limiting switch as a safety feature.

b. Mass Flow

The inlet flow is metered through a 30-inch Universal Venturi Tube manufactured by B.I.F. Industries with a 17.400-inch throat. Meter accuracy has been calibrated to plus or minus one-half percent by the manufacturer. Static pressure taps are located both in the throat and in the inlet cavity.

c. Inlet (Plenum) Total Pressure and Temperature

Compressor inlet total pressure is assumed equal to plenum static pressure just downstream of the last screen. Four static pressure taps are manifolded into two pressure sources and recorded on two separate ZOC channels. At maximum flow rate, the error is no worse than 0.003 psi, verified by calibration. Inlet total temperature is sensed by nine bare junction thermocouples located in the same axial plane as the pressure taps at three different radii in the plenum. The thermocouples are supported on two cables stretched across the inlet plenum.

d. Relative Humidity

A Foxboro Dewcel Model 2711TG-K222 was mounted in the inlet stack to monitor humidity. This device continuously measures the moisture content of the air by sensing the temperature at which the partial pressure of its water vapor is equal to the water vapor pressure of a saturated salt solution. The humidity is acquired by the DAS as a thermocouple output for every test point and subsequently treated in the data reduction program.

SECTION IV

TEST PROCEDURE AND DATA REDUCTION

1. TEST PROCEDURE

Test data were taken generally in order of decreasing speed, with several different compressor throttle settings being tested at each speed, generally in order of increasing throttle. Data were collected generally during two separate test periods (usually on two different days); one period with one throttle cover plate installed to get the high-flow end of the speed lines and another period with four throttle cover plates installed to get the mid-flow and low-flow end of the speed lines and the surge line (see the description of the facility throttle in the previous section). Data were usually taken at 100, 95, 90, 80, 60, and 40% of design speed; for some configurations, data were also taken at 70 and 50% of design speeds. Data were taken at the high speeds first to avoid the high cooling water temperatures experienced during periods of limited cooling facility capacity and the need to share cooling water with other facilities. Typical test periods were two to three hours in duration with as many as 50-60 data points being collected during the period.

For each speed line, test data were acquired at 10-12 throttle configurations (open, partially closed, with one or four throttle cover plates installed), some with an open surge valve. Although the open surge valve and/or one throttle cover plate configuration produced a slight asymmetry in throttling, the increased mass flow

this permitted expanded the operating range which could be mapped to a useful degree. For each speed line, the throttle setting (with four throttle cover plates installed) which induced stall was determined; several throttle settings in the operating range were then selected to complete the mapping of the speed line. Of the test data collected, seven test points which best described each speed line were selected after preliminary data reduction to be analyzed in more detail (and reported in this document). Multiple test points at the same conditions were acquired on different days to assure data integrity and repeatability; only one of the test points will be reported.

All test data were collected at some degree of depressed inlet pressure; however, all data were corrected to standard inlet conditions as reported herein. The degree to which the inlet pressure was depressed was based on two criteria: first, the ability of the depression system to keep up with small leaks into the many joints associated with the closed loop and second, the limited power output of the drive motor and maximum allowable time the motor could be operated with elevated motor winding temperatures. The elevated power requirements for the drive motor at 90-100% of design speed caused the motor windings to overheat. To permit adequate test time at these speeds to complete each survey, it was necessary to depress the inlet pressure to decrease the power requirements. More depression was required as the speed increased; minimum inlet pressure experienced was approximately 7-8 psia. Since the depression system is passive and operates by opening a bleed valve in the facility throttle, the amount of

depression achieved is determined by the length of time the bleed valve is open, the size of the bleed tube carrying the bleed air outside the test chamber, and the pressure difference between the throttle inlet pressure and atmospheric pressure. As the compressor speed decreases, the compressor total pressure ratio decreases (at constant throttle setting) and the inlet pressure increases until the exit pressure (at the throttle inlet) reaches a point where the bleed flow equals the combined air flow leaking into the facility flowpath joints (where outside atmospheric pressure is greater than the inside flowpath pressure). At the lower compressor speeds, however, the requirement for a depressed inlet pressure is not so great since the power requirements are reduced. A test procedure was adopted such that compressor inlet conditions and selected compressor instrumentation were monitored to assure that all test conditions had stabilized before data were collected, especially after any compressor speed change.

A nine-character test identification number was assigned by the DAS to each test point recorded in the format "XXYYZZAAA." Here "XX" is a two digit number indicating the year; "88" for 1988, etc. "YY" is a two digit number indicating the month; "01" for January, "02" for February, etc. "ZZ" is a two digit number indicating the day of the month; "01" for the first day, "02" for the second day, etc. "AAA" is a three digit number indicating the test point collected on that day; "001" for the first point, "002" for the second point, etc. Hence, for example, the thirteenth test point collected on 26 November 1987 would have a test point identification number as follows: 871126013. During each data scan,

a total of up to 950 data channels were scanned and recorded by the DAS (only 310 data channels were scanned and recorded if the data scan was a non-calibration scan).

2. DATA REDUCTION - PHASE I

Phase I data reduction was accomplished using the computer program similar to the one described in Reference 4 ("TESCOM Single-Stage Configuration Performance Data Reduction," April 1981). This computer program converts the raw data into engineering units, groups and displays the acquired data in a readable format, provides an initial analysis of compressor performance, and prepares an output of data required for the phase II aerodynamic analysis. Some of the features of the phase I data reduction program (named "DTREDIM") are as follows:

- a. On-line thermocouple calibration data were available and this data was utilized in the conversion of the thermocouple outputs into engineering units.
- b. On-line pressure transducer (steady state) calibration data were available and these data were utilized in the conversion of the transducer outputs into engineering units.
- c. Temperature effects were considered in calculating the gas mixture (air plus water vapor) thermodynamic properties.

- d. Corrections were made to measured compressor temperatures and pressures, facility flowrate, and rotor wheel speed to correspond to standard inlet conditions of temperature and pressure.
- e. Corrections were made to the stage exit measured temperatures and pressures to account for both recovery and Mach number effects.
- f. Completed arithmetic averages of various quantities (where multiple measurements of the same parameter existed), such as plenum pressure and temperature, venturi inlet and throat pressures, and some static pressures.
- g. Completed circumferential mass-averages of stage exit total pressures and temperatures at the same radii.

Selected phase I analysis outputs for the test points at 90, 95, and 100% speeds are presented in Appendix A.

3. DATA REDUCTION - PHASE II

a. Basic Program Description

Phase II reduction of the test data was performed using the computer program named "PERCH" and described in Reference 5 ("Multistage Compressor Test Data Analysis Computer Program," July

1983). This computer program provides a detailed aerodynamic analysis of the test compressor stage, utilizing the geometry of the stage and the phase I output data as inputs. Analysis of each test point is performed individually, although any number of test points may be analyzed in one computer execution.

The system of equations incorporated into the phase II computer program includes a full treatment of the axisymmetric equations of motion of an inviscid fluid, including blade-force terms, and the assumption of a thermally-perfect gas as the working fluid. The equations are solved in finite difference form by the streamline curvature method. Wake and boundary layer blockages, flow deviation, and/or work distributions within blade rows are either calculated or input as a user option in the computer program.

The phase II computer program was developed for the routine analysis of multi-stage variable geometry axial flow fan and compressor test data. The purpose of the program is to determine details of the flow within a compressor from test measurements, a description of the compressor geometry, and, when necessary, correlations of blade row performance. As a minimum, the program has the capability of analyzing up to 3 stages plus an inlet guide vane using up to 30 computing stations. However, the internal storage algorithm does not limit any individual quantity, so that more than 3 stages can be accommodated if needed. The program has the ability to:

- (1) Read airfoil coordinates and compute basic airfoil parameters such as thickness, angles, etc., after resetting and/or cambering.
- (2) Accept test data and other aerodynamic parameters in a wide variety of forms.
- (3) Output details of the blade geometries, the flow field within the compressor, and blade and stage performance, plus data suitable for generating a wide variety of plots.

b. Across-Blade Analysis

Phase II across-blade analysis was performed for each test point on all speedlines. The computing station geometry for the across-blade analysis is shown in Figure 4. Note that computing stations may be radial, slanted, or curvilinear. The computing stations are defined in Table 2, and the conditions for analysis are defined in Table 3. Note in particular that the blockages were iteratively determined at the blade edges and in the exit where experimental casing static pressures could be matched by the calculated values. Elsewhere, blockages were either specified (input, constant valued) or linearly interpolated between the values calculated (or specified). Also, exit plane peak total pressures were used to determine the rotor exit total pressure distribution and exit plane total temperatures were used to

determine the rotor exit total temperature distribution, rather than using the measured stator leading edge total pressures and temperatures.

c. Thru-Blade Analysis

To obtain a more detailed picture of the flow within the compressor stage, two test points were chosen for thru-blade analysis, both at design speed: the test point nearest the design (operating) point and the test point with maximum stage efficiency and maximum stage pressure ratio. The more detailed analysis involved the introduction of four additional computing stations within the rotor. The thru-blade analysis computing station geometry is shown in Figure 5, the computing stations are defined in Table 4, and the conditions for analysis are defined in Table 5. Note in particular that the blockages were either calculated to match measured casing static pressures or linearly interpolated between calculated values at the rotor internal computing stations. The decision to interpolate blockage rather than match casing static pressure at some computing stations was made as the result of the calculated distributions of work, deviation, and blockage. Attempting to calculate blockages to match measured static pressures at every computing station produced implausible distributions of either or both blockage and deviation, unless unlikely work distributions were specified. The best overall result was to interpolate blockage at some rotor internal computing stations, which produced smooth distributions of the stated parameters. One possibility is that the casing static pressures may have been

disrupted by local disturbances, such as shock interactions with the casing or blade surface boundary layers; the casing static pressures might, therefore, not represent a true measure of the flow characteristics across the entire rotor annulus. Indeed, the degree of casing static pressure disruption varies with the amount of throttling (comparing the rotor casing static pressure distributions for the three test points analyzed, all at different throttle settings), which has some bearing on the location and strength of the rotor blade-to-blade passage shock at the rotor tip.

Convergence of the final thru-blade solutions were based on satisfying the following criteria:

- (1) The specified flow was passed through the stage.
- (2) Experimental casing static pressure values, linearly interpolated to determine the values at the computing station casing axial locations, were matched at the specified stations.
- (3) The computed distribution of the casing static pressure smoothly represented the measured casing static pressure distribution.
- (4) Reasonable axial distributions of axial distributions of blockage, work (total enthalpy for the rotor), and deviation were achieved.

The fourth criteria was achieved by analytically specifying a smooth distribution of work (total enthalpy) through (from leading to trailing edge) and across (from hub to tip) the rotor. The axial distribution of work along a streamline was specified as a combination of a quarter-sine wave function and a linear function (a coefficient value of 1.0 defines the function to be all quarter-sine wave and a value of 0.0 defines the function to be all linear). The coefficient was specified at three different exit radii; near the hub, mid, and tip streamlines. The program smoothly varies the coefficient in the radial direction between the specified values. The iteration began with a specified work distribution similar to the design intent; convergence was accomplished when reasonable axial distributions of deviation along the hub, mid, and tip streamlines were achieved.

SECTION V

RESULTS

1. OVER-ALL PERFORMANCE

The mass-averaged performance of the rotor and of the complete compressor stage is tabulated in Table 6 and plotted in Figures 6 and 7. The performance indicates that the design goals were nearly achieved or exceeded. At 100% design corrected speed and near the operating design point, measured corrected flow was 61.01 lb./sec. (design flow was 61.36 lb./sec.), stage efficiency was 88.5% (design efficiency was 85.4%) and stage pressure ratio was 1.92 (design stage pressure ratio was 1.92). The compressor was throttled to stall at each corrected speed shown on the map. Seven test points were selected which best represented the full characteristic of each speed line, from full open throttle to near stall (the last test point plotted on each speed line represents the highest throttle setting that could be maintained without initiating compressor stall).

2. BLADE-ELEMENT PERFORMANCE (ACROSS-BLADE)

The radial distributions of incidence angle, relative (absolute for the stator) inlet Mach number, loss coefficient, diffusion factor, and deviation angle for both rotor and stator and the axial distributions of measured and computed static pressures for each test point are presented in Figures 8 through 109, for each data point shown on the compressor map and listed in Table 6.

The plots are grouped together according to speed and presented in order of decreasing speed; the rotor/stator parameters for all test points on the same speed line are plotted together.

3. DESIGN SPEED DETAILED THRU-BLADE RESULTS

Two test points at 100% corrected speed closest to the design (operating) point and maximum efficiency (and maximum pressure ratio) point were selected for detailed thru-blade analysis. The test point identification numbers for these points are 870909001 and 870909006 respectively. The radial distributions of incidence angle, relative (absolute for the stator) inlet Mach number, loss coefficient, diffusion factor, and deviation angle for both rotor and stator, the axial distributions of wake/boundary-layer blockage, the thru-blade distributions of deviation and work for the rotor, and the axial distributions of measured and computed static pressure for the two test points are presented in Figures 110 through 127. The rotor/stator inlet and exit parameters for the two test points are plotted together for easier comparison. Printed outputs of the thru-blade analysis for the two test points analyzed are also presented; test point 870909001 output is presented in Appendix B and test point 870909006 in Appendix C.

4. DESIGN POINT COMPARISON RESULTS

To obtain a comparison between design and experimental data, results for the thru-blade analysis of the test point closest to the design (operating) point (test point identification number

870909001) are compared with the design prediction values and are shown in Figures 128 through 131. Shown are the distributions of rotor incidence angle (Figure 128), rotor inlet relative Mach number (Figure 129), rotor exit deviation angle (Figure 130), and stator incidence angle (Figure 131).

5. BASELINE COMPARISON

To obtain a comparison between the PBS rotor configuration number 4 and the baseline performances, results for the thru-blade analyses of the test points at 100% corrected design speeds and maximum efficiency are compared in Figures 132 through 141. Shown are comparison plots of incidence angle, inlet relative (absolute for stator) Mach number, loss coefficient, diffusion factor, and deviation for both rotor and stator. For the PBS rotor configuration number 4, test point identification number 870909006 results are shown. For the baseline rotor configuration, the original test results (re-run through the same phase II thru-blade analysis as the PBS configurations) for test point identification number 780222026 (designated HTFC, for "High Thru-Flow Compressor," configuration number 7) are shown.

SECTION VI

CONCLUSIONS

There are obviously many differences between the design predictions and test results and between the baseline test results and PBS configuration number 4 test results. In other technical reports yet to be printed, there will also be many differences indicated between the test results for the other PBS configurations. The intent, however, of this report is to present the results of the investigation for PBS #4 as completely and comprehensively as possible without drawing any specific conclusions about the specific design or the overall study. Future reports will deal with summary comparisons and conclusions as the scientific community has had sufficient time to digest the wealth of information contained herein and to pass their thoughts and concerns on to the authors.

TABLE 1

PBS #4 - INSTRUMENTATION DETAILS

INST. CHAN.	THERMO. GROUP	ZOC ID.	CAL.1 CHAN.	CAL.2 CHAN.	CAL.3 CHAN.	INSTRUMENTATION	
						MEASUREMENT	LOCATION
1	1	-	-	-	-	Exit TT on R1	at 5.996
2	1	-	-	-	-	Exit TT on R1	at 6.387
3	1	-	-	-	-	Exit TT on R1	at 6.755
4	1	-	-	-	-	Exit TT on R1	at 7.104
5	1	-	-	-	-	Exit TT on R1	at 7.437
6	1	-	-	-	-	Exit TT on R1	at 7.756
7	1	-	-	-	-	Exit TT on R1	at 8.062
8	1	-	-	-	-	Exit TT on R1	at 8.356
9	1	-	-	-	-	Exit TT on R15	at 5.996
10	1	-	-	-	-	Exit TT on R15	at 6.387
11	1	-	-	-	-	Exit TT on R15	at 6.755
12	1	-	-	-	-	Exit TT on R15	at 7.104
13	1	-	-	-	-	Exit TT on R15	at 7.437
14	1	-	-	-	-	Exit TT on R15	at 7.756
19	1	-	-	-	-	Exit TT on R15	at 8.062
20	1	-	-	-	-	Exit TT on R15	at 8.356
21	1	-	-	-	-	32 degree ref. temp.	
22	1	-	-	-	-	313 degree ref. temp.	
23	1	-	-	-	-	450 degree ref. temp.	
26	2	-	-	-	-	Exit TT on R5	at 5.996
27	2	-	-	-	-	Exit TT on R5	at 6.387
28	2	-	-	-	-	Exit TT on R5	at 6.755
29	2	-	-	-	-	Exit TT on R5	at 7.104
30	2	-	-	-	-	Exit TT on R5	at 7.437
31	2	-	-	-	-	Exit TT on R5	at 7.756
32	2	-	-	-	-	Exit TT on R5	at 8.062
33	2	-	-	-	-	Exit TT on R5	at 8.356
34	2	-	-	-	-	Exit TT on R13	at 5.996
35	2	-	-	-	-	Exit TT on R13	at 6.387
36	2	-	-	-	-	Exit TT on R13	at 6.755
37	2	-	-	-	-	Exit TT on R13	at 7.104
38	2	-	-	-	-	Exit TT on R13	at 7.437
39	2	-	-	-	-	Exit TT on R13	at 7.756
40	2	-	-	-	-	Exit TT on R13	at 8.062
41	2	-	-	-	-	Exit TT on R13	at 8.356
42	2	-	-	-	-	Exit TT on R3	at 5.996
43	2	-	-	-	-	Exit TT on R3	at 6.387
44	2	-	-	-	-	Exit TT on R3	at 6.755
45	2	-	-	-	-	Exit TT on R3	at 7.104
46	2	-	-	-	-	Exit TT on R3	at 7.437
47	2	-	-	-	-	Exit TT on R3	at 7.756
48	2	-	-	-	-	Exit TT on R3	at 8.062
49	2	-	-	-	-	Exit TT on R3	at 8.356
51	2	-	-	-	-	Exit TT on R7	at 5.996

TABLE 1 Continued

PBS #4 - INSTRUMENTATION DETAILS

INST. CHAN.	THERMO. GROUP	ZOC ID.	CAL.1 CHAN.	CAL.2 CHAN.	CAL.3 CHAN.	INSTRUMENTATION MEASUREMENT LOCATION
52	2	-	-	-	-	Exit TT on R7 at 6.387
53	2	-	-	-	-	Exit TT on R7 at 6.755
54	2	-	-	-	-	Exit TT on R7 at 7.104
55	2	-	-	-	-	Exit TT on R7 at 7.437
56	2	-	-	-	-	Exit TT on R7 at 7.756
57	2	-	-	-	-	Exit TT on R7 at 8.062
58	2	-	-	-	-	Exit TT on R7 at 8.356
59	2	-	-	-	-	Exit TT on R11 at 5.996
60	2	-	-	-	-	Exit TT on R11 at 6.387
61	2	-	-	-	-	Exit TT on R11 at 6.755
62	2	-	-	-	-	Exit TT on R11 at 7.104
63	2	-	-	-	-	Exit TT on R11 at 7.437
64	2	-	-	-	-	Exit TT on R11 at 7.756
65	2	-	-	-	-	Exit TT on R11 at 8.356
66	2	-	-	-	-	Exit TT on R11 at 8.062
67	2	-	-	-	-	Exit TT on R9 at 5.996
68	2	-	-	-	-	Exit TT on R9 at 6.387
69	2	-	-	-	-	Exit TT on R9 at 6.755
70	2	-	-	-	-	Exit TT on R9 at 7.104
71	2	-	-	-	-	Exit TT on R9 at 7.437
72	2	-	-	-	-	Exit TT on R9 at 7.756
73	2	-	-	-	-	Exit TT on R9 at 8.062
74	2	-	-	-	-	Exit TT on R9 at 8.356
76	2	-	-	-	-	Exit TT on R17 at 5.996
77	2	-	-	-	-	Exit TT on R17 at 6.387
78	2	-	-	-	-	Exit TT on R17 at 6.755
79	2	-	-	-	-	Exit TT on R17 at 7.104
80	2	-	-	-	-	Exit TT on R17 at 7.437
81	2	-	-	-	-	Exit TT on R17 at 7.756
82	2	-	-	-	-	Exit TT on R17 at 8.062
83	2	-	-	-	-	Exit TT on R17 at 8.356
84	2	-	-	-	-	Stator LE TT at 8.125
85	2	-	-	-	-	Exit TT on R19 at 8.062
86	2	-	-	-	-	Exit TT on R19 at 7.756
87	2	-	-	-	-	Exit TT on R19 at 7.437
88	2	-	-	-	-	Exit TT on R19 at 7.104
89	2	-	-	-	-	Exit TT on R19 at 6.755
90	2	-	-	-	-	Exit TT on R19 at 6.387
91	2	-	-	-	-	Exit TT on R19 at 5.996
92	2	-	-	-	-	Exit TT on R19 at 8.356
93	2	-	-	-	-	Stator LE TT at 6.250
94	2	-	-	-	-	Stator LE TT at 7.750
95	2	-	-	-	-	Stator LE TT at 5.875
96	2	-	-	-	-	Stator LE TT at 7.375

TABLE 1 Continued

PBS #4 - INSTRUMENTATION DETAILS

INST. CHAN.	THERMO. GROUP	ZOC ID.	CAL.1 CHAN.	CAL.2 CHAN.	CAL.3 CHAN.	INSTRUMENTATION MEASUREMENT LOCATION
97	2	-	-	-	-	Stator LE TT at 7.000
98	2	-	-	-	-	Stator LE TT at 5.125
99	-	-	-	-	-	Rotor RPM
100	2	-	-	-	-	Stator LE TT at 6.625
101	2	-	-	-	-	Stator LE TT at 5.500
102	2	-	-	-	-	32 degree ref. temp.
103	2	-	-	-	-	313 degree ref. temp.
104	2	-	-	-	-	450 degree ref. temp.
105	3	-	-	-	-	Plenum temperature #1
106	3	-	-	-	-	Plenum temperature #2
108	3	-	-	-	-	Plenum temperature #3
109	3	-	-	-	-	Plenum temperature #4
110	3	-	-	-	-	Plenum temperature #5
111	3	-	-	-	-	Plenum temperature #6
112	3	-	-	-	-	Plenum temperature #7
113	3	-	-	-	-	Plenum temperature #8
117	3	-	-	-	-	Plenum temperature #9
118	3	-	-	-	-	Dewcel temperature #10
121	3	-	-	-	-	ZOC module #1 temp.
122	3	-	-	-	-	ZOC module #2 temp.
123	3	-	-	-	-	ZOC module #3 temp.
124	3	-	-	-	-	ZOC module #4 temp.
125	3	-	-	-	-	ZOC module #5 temp.
126	3	-	-	-	-	ZOC module #6 temp.
127	3	-	-	-	-	ZOC module #7 temp.
128	3	-	-	-	-	ZOC module #8 temp.
129	3	-	-	-	-	ZOC module #9 temp.
130	3	-	-	-	-	ZOC module #10 temp.
151	-	1A1	311	471	631	Exit PT on R2 at 5.996
152	-	2A1	312	472	632	OD PS at -0.900 (#1)
153	-	3A1	313	473	633	Exit PT on R6 at 5.996
154	-	4A1	314	474	634	Exit PT on R10 at 5.996
155	-	5A1	315	475	635	Exit PT on R14 at 5.996
156	-	6A1	316	476	636	Exit PT on R18 at 5.996
157	-	7A1	317	477	637	ID PS at -5.125 (#1)
158	-	8A1	318	478	638	OD PS at -8.571
159	-	9A1	319	479	639	Plenum pressure #1
160	-	10A1	320	480	640	Venturi throat #5
161	-	1A2	321	481	641	Exit PT on R2 at 6.387
162	-	2A2	322	482	642	OD PS at -9.000 (#2)
163	-	3A2	323	483	643	Exit PT on R6 at 6.387
164	-	4A2	324	484	644	Exit PT on R10 at 6.387
165	-	5A2	325	485	645	Exit PT on R14 at 6.387
166	-	6A2	326	486	646	Exit PT on R18 at 6.387

TABLE 1 Continued

PBS #4 - INSTRUMENTATION DETAILS

INST. CHAN.	THERMO. GROUP	ZOC ID.	CAL.1 CHAN.	CAL.2 CHAN.	CAL.3 CHAN.	INSTRUMENTATION MEASUREMENT LOCATION
167	-	7A2	327	487	647	ID PS at -5.125 (#2)
168	-	8A2	328	488	648	OD PS at -8.318
169	-	9A2	329	489	649	Venturi throat (#1)
170	-	10A2	330	490	650	Venturi throat (#6)
171	-	1A3	331	491	651	Exit PT on R2 at 6.755
172	-	2A3	332	492	652	OD PS at -0.900 (#3)
173	-	3A3	333	493	653	Exit PT on R6 at 6.755
174	-	4A3	334	494	654	Exit PT on R10 at 6.755
175	-	5A3	335	495	655	Exit PT on R14 at 6.755
176	-	6A3	336	496	656	Exit PT on R18 at 6.755
177	-	7A3	337	497	657	ID PS at -5.125 (#3)
178	-	8A3	338	498	658	OD PS at -8.065
179	-	9A3	339	499	659	Venturi inlet (#3)
180	-	10A3	340	500	660	Venturi throat (#7)
181	-	1A4	341	501	661	Exit PT on R2 at 7.104
182	-	2A4	342	502	662	OD PS at -0.900 (#4)
183	-	3A4	343	503	663	Exit PT on R6 at 7.104
184	-	4A4	344	504	664	Exit PT on R10 at 7.104
185	-	5A4	345	505	665	Exit PT on R14 at 7.104
186	-	6A4	346	506	666	Exit PT on R18 at 7.104
187	-	7A4	347	507	667	ID PS at -5.125 (#4)
188	-	8A4	348	508	668	OD PS at -7.811
189	-	9A4	349	509	669	Venturi inlet (#1)
190	-	10A4	350	510	670	Venturi throat (#8)
191	-	1A5	351	511	671	Exit PT on R2 at 7.437
192	-	2A5	352	512	672	OD PS at -1.650 (#1)
193	-	3A5	353	513	673	Exit PT on R6 at 7.437
194	-	4A5	354	514	674	Exit PT on R10 at 7.437
195	-	5A5	355	515	675	Exit PT on R14 at 7.437
196	-	6A5	356	516	676	Exit PT on R18 at 7.437
197	-	7A5	357	517	677	Stator LE PT at 5.125
198	-	8A5	358	518	678	OD PS at -7.558
199	-	9A5	359	519	679	Atmos. pressure (#3)
200	-	10A5	360	520	680	Venturi throat (#9)
201	-	1A6	361	521	681	Exit PT on R2 at 7.756
202	-	2A6	362	522	682	OD PS at -1.650 (#2)
203	-	3A6	363	523	683	Exit PT on R6 at 7.756
204	-	4A6	364	524	684	Exit PT on R10 at 7.756
205	-	5A6	365	525	685	Exit PT on R14 at 7.756
206	-	6A6	366	526	686	Exit PT on R18 at 7.756
207	-	7A6	367	527	687	
208	-	8A6	368	528	688	OD PS at -7.304
209	-	9A6	369	529	689	Atmos. pressure (#1)
210	-	10A6	370	530	690	Venturi throat (#10)

TABLE 1 Continued

PBS #4 - INSTRUMENTATION DETAILS

INST. CHAN.	THERMO. GROUP	ZOC ID.	CAL.1 CHAN.	CAL.2 CHAN.	CAL.3 CHAN.	INSTRUMENTATION MEASUREMENT LOCATION
211	-	1A7	371	531	691	Exit PT on R2 at 8.062
212	-	2A7	372	532	692	OD PS at -1.650 (#3)
213	-	3A7	373	533	693	Exit PT on R6 at 8.062
214	-	4A7	374	534	694	Exit PT on R10 at 8.062
215	-	5A7	375	535	695	Exit PT on R14 at 8.062
216	-	6A7	376	536	696	Exit PT on R18 at 8.062
217	-	7A7	377	537	697	
218	-	8A7	378	538	698	OD PS at -7.051
219	-	9A7	379	539	699	Venturi throat (#3)
220	-	10A7	380	540	700	Venturi throat (#11)
221	-	1A8	381	541	701	Exit PT on R2 at 8.356
222	-	2A8	382	542	702	OD PS at -1.650 (#4)
223	-	3A8	383	543	703	Exit PT on R6 at 8.356
224	-	4A8	384	544	704	Exit PT on R10 at 8.356
225	-	5A8	385	545	705	Exit PT on R14 at 8.356
226	-	6A8	386	546	706	Exit PT on R18 at 8.356
227	-	7A8	387	547	707	
228	-	8A8	388	548	708	OD PS at -6.798
229	-	9A8	389	549	709	Atmos. pressure (#4)
230	-	10A8	390	550	710	Venturi throat (#12)
231	-	1B1	391	551	711	Exit PT on R20 at 5.996
232	-	2B1	392	552	712	Stator LE PT at 8.125
233	-	3B1	393	553	713	Exit PT on R4 at 5.996
234	-	4B1	394	554	714	Exit PT on R8 at 5.996
235	-	5B1	395	555	715	Exit PT on R12 at 5.996
236	-	6B1	396	556	716	Exit PT on R16 at 5.996
237	-	7B1	397	557	717	ID PS at -0.900 (#1)
238	-	8B1	398	558	718	OD PS at -6.544
239	-	9B1	399	559	719	Plenum pressure (#2)
240	-	10B1	400	560	720	Atmos. pressure (#7)
241	-	1B2	401	561	721	Exit PT on R20 at 6.387
242	-	2B2	402	562	722	Stator LE PT at 7.750
243	-	3B2	403	563	723	Exit PT on R4 at 6.387
244	-	4B2	404	564	724	Exit PT on R8 at 6.387
245	-	5B2	405	565	725	Exit PT on R12 at 6.387
246	-	6B2	406	566	726	Exit PT on R16 at 6.387
247	-	7B2	407	567	727	ID PS at -0.900 (#2)
248	-	8B2	408	568	728	OD PS at -6.291
249	-	9B2	409	569	729	Venturi throat (#2)
250	-	10B2	410	570	730	Atmos. pressure (#8)
251	-	1B3	411	571	731	Exit PT on R20 at 6.755
252	-	2B3	412	572	732	Stator LE PT at 7.375
253	-	3B3	413	573	733	Exit PT on R4 at 6.755
254	-	4B3	414	574	734	Exit PT on R8 at 6.755

TABLE 1 Continued

PBS #4 - INSTRUMENTATION DETAILS

INST. CHAN.	THERMO. GROUP	ZOC ID.	CAL.1 CHAN.	CAL.2 CHAN.	CAL.3 CHAN.	INSTRUMENTATION	
						MEASUREMENT	LOCATION
255	-	5B3	415	575	735	Exit PT on R12 at 6.755	
256	-	6B3	416	576	736	Exit PT on R16 at 6.755	
257	-	7B3	417	577	737	ID PS at -0.900 (#3)	
258	-	8B3	418	578	738	OD PS at -6.037	
259	-	9B3	419	579	739	Venturi throat (#4)	
260	-	10B3	420	580	740	Atmos. pressure (#9)	
261	-	1B4	421	581	741	Exit PT on R20 at 7.104	
262	-	2B4	422	582	742	Stator LE PT at 7.000	
263	-	3B4	423	583	743	Exit PT on R4 at 7.104	
264	-	4B4	424	584	744	Exit PT on R8 at 7.104	
265	-	5B4	425	585	745	Exit PT on R12 at 7.104	
266	-	6B4	426	586	746	Exit PT on R16 at 7.104	
267	-	7B4	427	587	747	ID PS at -0.900 (#4)	
268	-	8B4	428	588	748	OD PS at -5.784	
269	-	9B4	429	589	749	Venturi inlet (#2)	
270	-	10B4	430	590	750	Atmos. pressure (#10)	
271	-	1B5	431	591	751	Exit PT on R20 at 7.437	
272	-	2B5	432	592	752	Stator LE PT at 6.625	
273	-	3B5	433	593	753	Exit PT on R4 at 7.437	
274	-	4B5	434	594	754	Exit PT on R8 at 7.437	
275	-	5B5	435	595	755	Exit PT on R12 at 7.437	
276	-	6B5	436	596	756	Exit PT on R16 at 7.437	
277	-	7B5	437	597	757	ID PS at -1.650 (#1)	
278	-	8B5	438	598	758	OD PS at -8.400 (#1)	
279	-	9B5	439	599	759	Atmos. pressure (#5)	
280	-	10B5	440	600	760	Atmos. pressure (#11)	
281	-	1B6	441	601	761	Exit PT on R20 at 7.756	
282	-	2B6	442	602	762	Stator LE PT at 6.250	
283	-	3B6	443	603	763	Exit PT on R4 at 7.756	
284	-	4B6	444	604	764	Exit PT on R8 at 7.756	
285	-	5B6	445	605	765	Exit PT on R12 at 7.756	
286	-	6B6	446	606	766	Exit PT on R16 at 7.756	
287	-	7B6	447	607	767	ID PS at -1.650 (#2)	
288	-	8B6	448	608	768	OD PS at -8.400 (#2)	
289	-	9B6	449	609	769	Atmos. Pressure (#2)	
290	-	10B6	450	610	770	Atmos. pressure (#12)	
291	-	1B7	451	611	771	Exit PT on R20 at 8.062	
292	-	2B7	452	612	772	Stator LE PT at 5.875	
293	-	3B7	453	613	773	Exit PT on R4 at 8.062	
294	-	4B7	454	614	774	Exit PT on R8 at 8.062	
295	-	5B7	455	615	775	Exit PT on R12 at 8.062	
296	-	6B7	456	616	776	Exit PT on R16 at 8.062	
297	-	7B7	457	617	777	ID PS at -1.650 (#3)	
298	-	8B7	458	618	778	OD PS at -8.400 (#3)	

TABLE 1 Continued

PBS #4 - INSTRUMENTATION DETAILS

INST. CHAN.	THERMO. GROUP	ZOC ID.	CAL.1 CHAN.	CAL.2 CHAN.	CAL.3 CHAN.	INSTRUMENTATION MEASUREMENT LOCATION
299	-	9B7	459	619	779	Venturi throat (#4)
300	-	10B7	460	620	780	Atmos. pressure (#13)
301	-	1B8	461	621	781	Exit PT on R20 at 8.356
302	-	2B8	462	622	782	Stator LE PT at 5.500
303	-	3B8	463	623	783	Exit PT on R4 at 8.356
304	-	4B8	464	624	784	Exit PT on R8 at 8.356
305	-	5B8	465	625	785	Exit PT on R12 at 8.356
306	-	6B8	466	626	786	Exit PT on R16 at 8.356
307	-	7B8	467	627	787	ID PS at -1.650 (#4)
308	-	8B8	468	628	788	OD PS at -8.400 (#4)
309	-	9B8	469	629	789	Venturi throat (#6)
310	-	10B8	470	630	790	Atmos. pressure (#14)

NOTE: The following instrumentation channels were erroneous and interchanged as follows:

ERRONEOUS CHANNEL	REPLACEMENT CHANNEL	TEST POINT NOS. AFFECTED
200	210	870904001-12, 870909001-56
209	289	870904001-12, 870909001-56
219	169	870904001-12, 870909001-56
262	252	870904001-12, 870909001-56
276	207	870904001-12, 870909001-56
280	290	870904001-12, 870909001-56
282	292	870904001-12, 870909001-56
299	249	870904001-12, 870909001-56
301	291	870909001-56

TABLE 2

ACROSS-BLADE ANALYSIS COMPUTING STATION GEOMETRY DEFINITION

STATION	1234567890123
ROTOR EXIT	X.....
STATOR OR IGV EXIT	X.....
INSIDE STATIONS	X.....
COMPUTE STATION Z,R	XXXX.....
APPLY AT -VT OPTION	X.....
APPLY AT -PT OPTION	X.....
FLOW (OR BLEED)	X.....
NAME (STATION)	XXXXXXXXXXXXXXX
NO BLADES	X.X.....
PEAK PRESSURE-PT	X.....
TOTAL PRESSURE-PT	X.....
TOTAL PRESSURE-VT	X.....
TOTAL TEMPERATURE	X.....
USE AIRFOIL	X.X.....
USE CASE SEGMENT	X.X.....
USE HUB SEGMENT	X.X.....

TABLE 3

ACROSS-BLADE ANALYSIS COMPUTING STATION INPUT DATA DEFINITION

STAT -ION	BLOCKAGE WILL BE OBTAINED FROM	--PRESSURE-- CASE PITCH STATIC STATIC	FITCH BLOCK -AGE	HUB BK OVER PITCH	PITCH ADL. DEV.
----	-----	-----	-----	-----	-----
1	INPUT		0.000	1.000	
2	INPUT		0.000	1.000	
3	INPUT		0.000	1.000	
4	INPUT		0.000	1.000	
5	INPUT		0.000	1.000	
6	CASE STATIC	10.210		1.000	
7	CASE STATIC	22.349		1.000	
8	INTERPOLATION			1.000	
9	CASE STATIC	23.317		1.000	
10	CASE STATIC	23.472		1.000	
11	CASE STATIC	23.181		1.000	
12	CASE STATIC	22.890		1.000	
13	CASE STATIC	22.599		1.000	

TABLE 4

THRU-BLADE ANALYSIS COMPUTING STATION GEOMETRY DEFINITION

STATION	12345678901234567
ROTOR EXIT	X.....
STATOR OR IGV EXIT	X....
INSIDE STATIONS	XXXX.....
COMPUTE STATION Z,P	XXXXXXXX.....
APPLY AT -VT OPTION	X.....
APPLY AT -PT OPTION	X.....
FLOW (OR BLEED)	X.....
NAME (STATION)	XXXXXX...XXXXXXX
NO BLADES	X.X....
PEAK PRESSURE-PT	X.....
TOTAL PRESSURE-PT	X.....
TOTAL PRESSURE-VT	X.....
TOTAL TEMPERATURE	X.....
USE AIRFOIL	X.X....
USE CASE SEGMENT	X.X....
USE HUB SEGMENT	X.X....

TABLE 5

THRU-BLADE ANALYSIS COMPUTING STATION INPUT DATA DEFINITION

STAT -ION	BLOCKAGE WILL BE OBTAINED FROM	--PRESSURE-- CASE PITCH STATIC STATIC	PITCH BLOCK -AGE	HUB BK OVER PITCH	PITCH ADD. DEV.
-----	-----	-----	-----	-----	-----
1	INPUT		0.000	1.000	
2	INPUT		0.000	1.000	
3	INPUT		0.000	1.000	
4	INPUT		0.000	1.000	
5	INPUT		0.000	1.000	
6	CASE STATIC	10.210		1.000	
7	INTERPOLATION			1.000	
8	INTERPOLATION			1.000	
9	CASE STATIC	18.714		1.000	
10	CASE STATIC	20.746		1.000	
11	CASE STATIC	22.349		1.000	
12	INTERPOLATION			1.000	
13	CASE STATIC	23.317		1.000	
14	CASE STATIC	23.472		1.000	
15	CASE STATIC	23.181		1.000	
16	CASE STATIC	22.890		1.000	
17	CASE STATIC	22.599		1.000	

TABLE 6

MASS-AVERAGED PBS #4 ROTOR AND STAGE PERFORMANCE

TEST ID #	% SPD	FLOW (LB/SEC)	-----ROTOR-----		-----STAGE-----	
			PRES	RAT EFFEN	PRES	RAT EFFEN
870904001	100	61.37	1.906	91.10	1.853	86.71
870909001	"	61.22	1.926	92.00	1.871	87.58
870909003	"	61.01	1.980	93.10	1.920	88.51
870909006	"	60.77	2.057	94.60	1.988	89.62
870909008	"	59.29	2.112	93.60	2.023	87.65
870909009	"	57.60	2.120	91.90	2.022	85.54
870909010	"	56.85	2.125	91.20	2.022	84.51
870904003	95	59.61	1.832	93.40	1.789	89.40
870909012	"	59.06	1.886	95.30	1.839	91.22
870909013	"	58.84	1.899	95.30	1.852	91.27
870909015	"	57.71	1.917	94.40	1.870	90.50
870909017	"	56.13	1.944	93.30	1.884	88.53
870909018	"	55.08	1.954	92.10	1.888	86.88
870909019	"	53.34	1.962	90.30	1.885	84.37
870904005	90	56.59	1.741	94.10	1.707	90.44
870909020	"	55.87	1.753	93.90	1.718	90.30
870909023	"	54.18	1.787	93.50	1.747	89.55
870909025	"	52.72	1.800	92.30	1.756	88.09
870909026	"	51.98	1.813	91.60	1.762	86.80
870909027	"	50.75	1.817	90.40	1.759	85.10
870909028	"	49.92	1.822	89.80	1.757	83.78
870904007	80	48.83	1.554	92.30	1.529	88.69
870909030	"	47.28	1.571	92.00	1.544	88.21
870909032	"	46.16	1.580	91.20	1.550	87.10
870909034	"	44.76	1.592	90.50	1.555	85.57
870909035	"	43.93	1.598	90.00	1.556	84.57
870909036	"	43.10	1.604	88.80	1.556	82.74
870909038	"	41.21	1.612	88.00	1.553	80.78
870904009	60	35.12	1.286	91.10	1.272	86.87
870909039	"	34.56	1.289	91.00	1.274	86.71
870909042	"	33.31	1.297	91.00	1.280	86.19
870909044	"	32.24	1.303	90.20	1.284	84.98
870909045	"	31.71	1.306	90.00	1.285	84.40
870909046	"	31.00	1.308	89.10	1.285	83.01
870909047	"	30.56	1.308	87.70	1.283	81.14
870904011	40	22.70	1.119	89.80	1.113	85.30
870909050	"	21.99	1.123	88.80	1.117	84.17
870909051	"	21.78	1.124	88.00	1.117	83.42
870909053	"	20.90	1.127	88.80	1.119	83.55
870909054	"	20.66	1.128	87.60	1.120	81.96
870909055	"	20.34	1.130	89.10	1.120	82.92
870909056	"	19.64	1.130	87.20	1.120	80.37

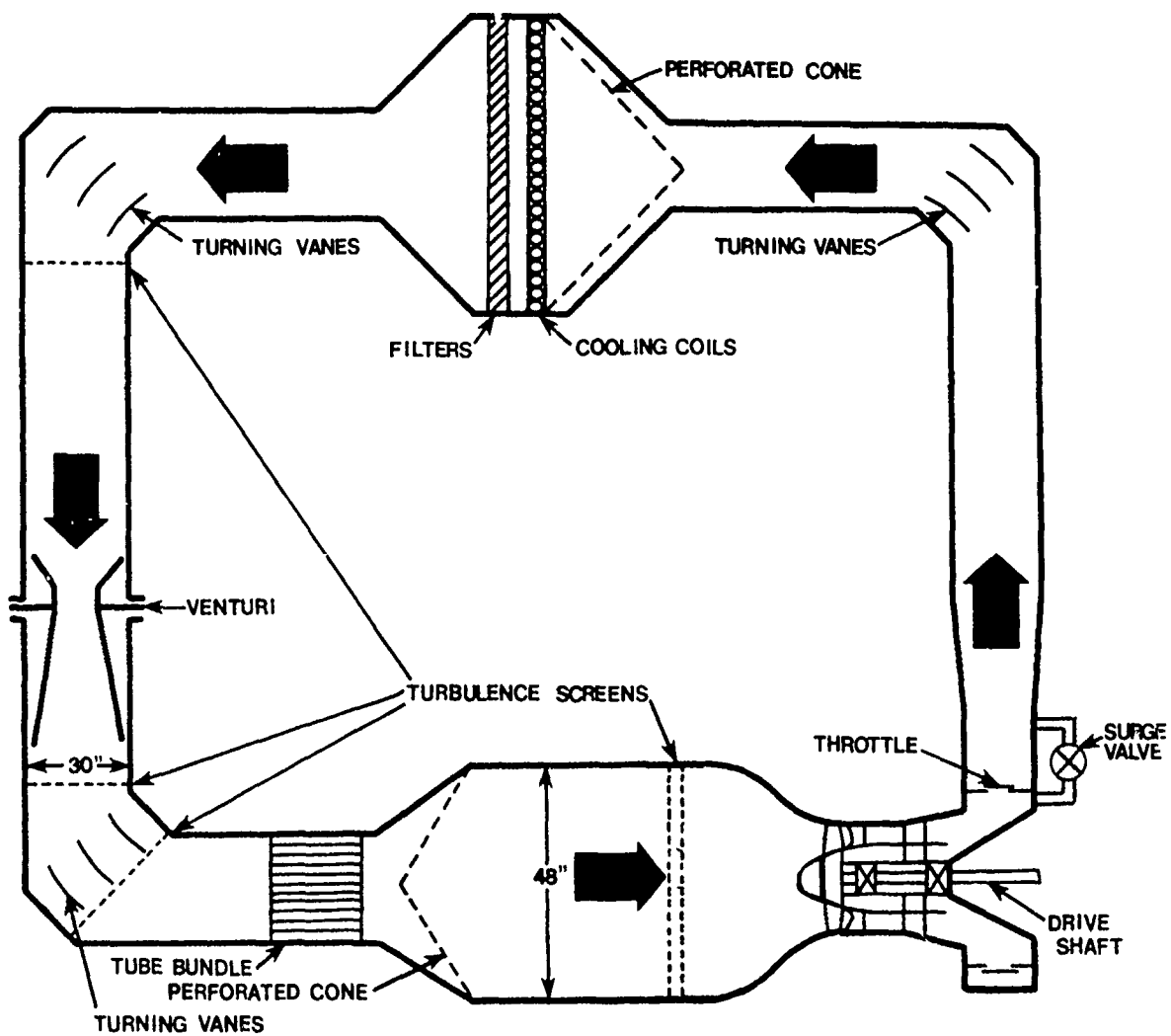


Figure 1. Schematic of 2000 HP Compressor Test Facility

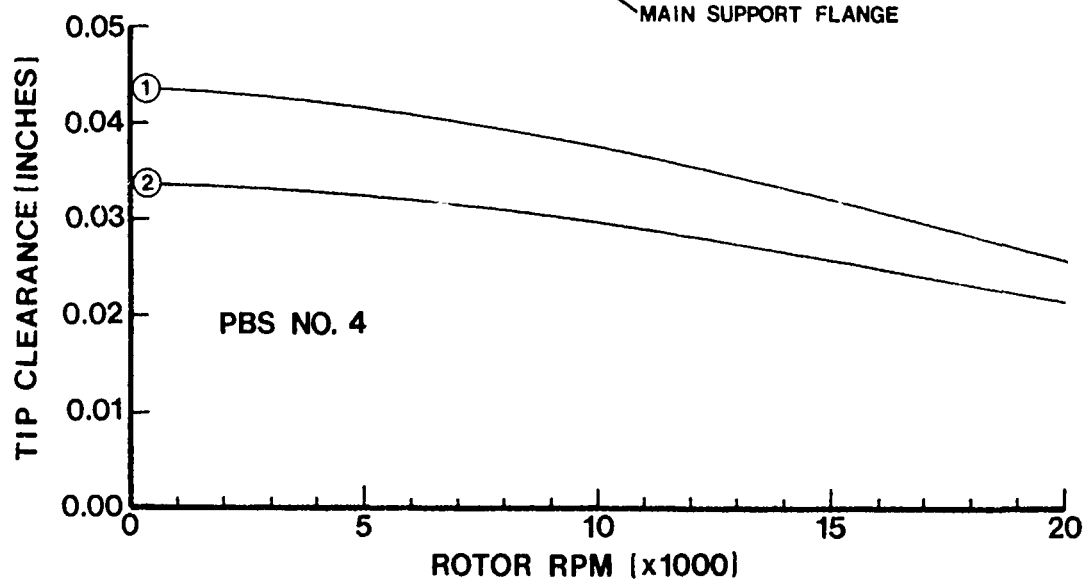
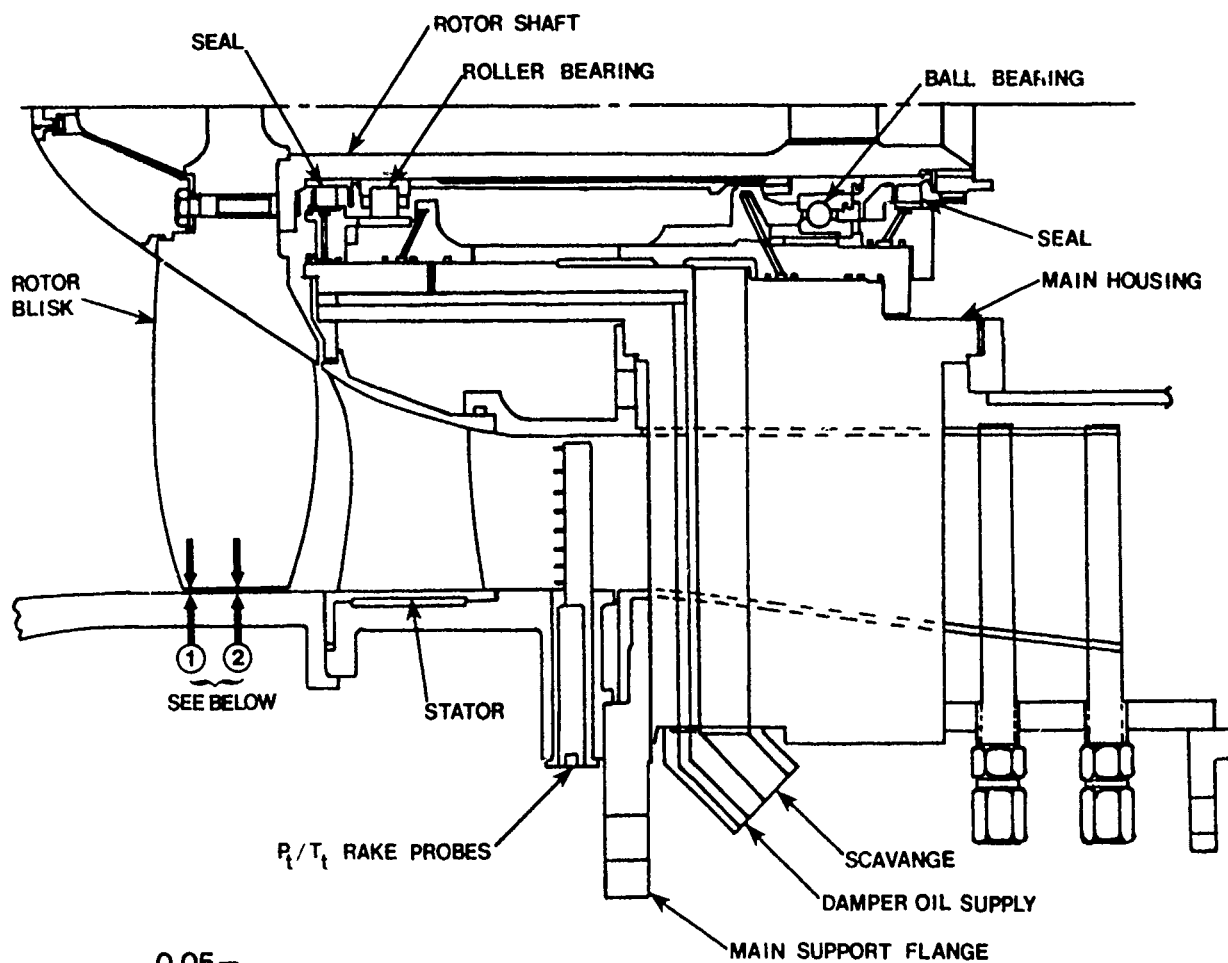


Figure 2. Cross-section of the Research Compressor

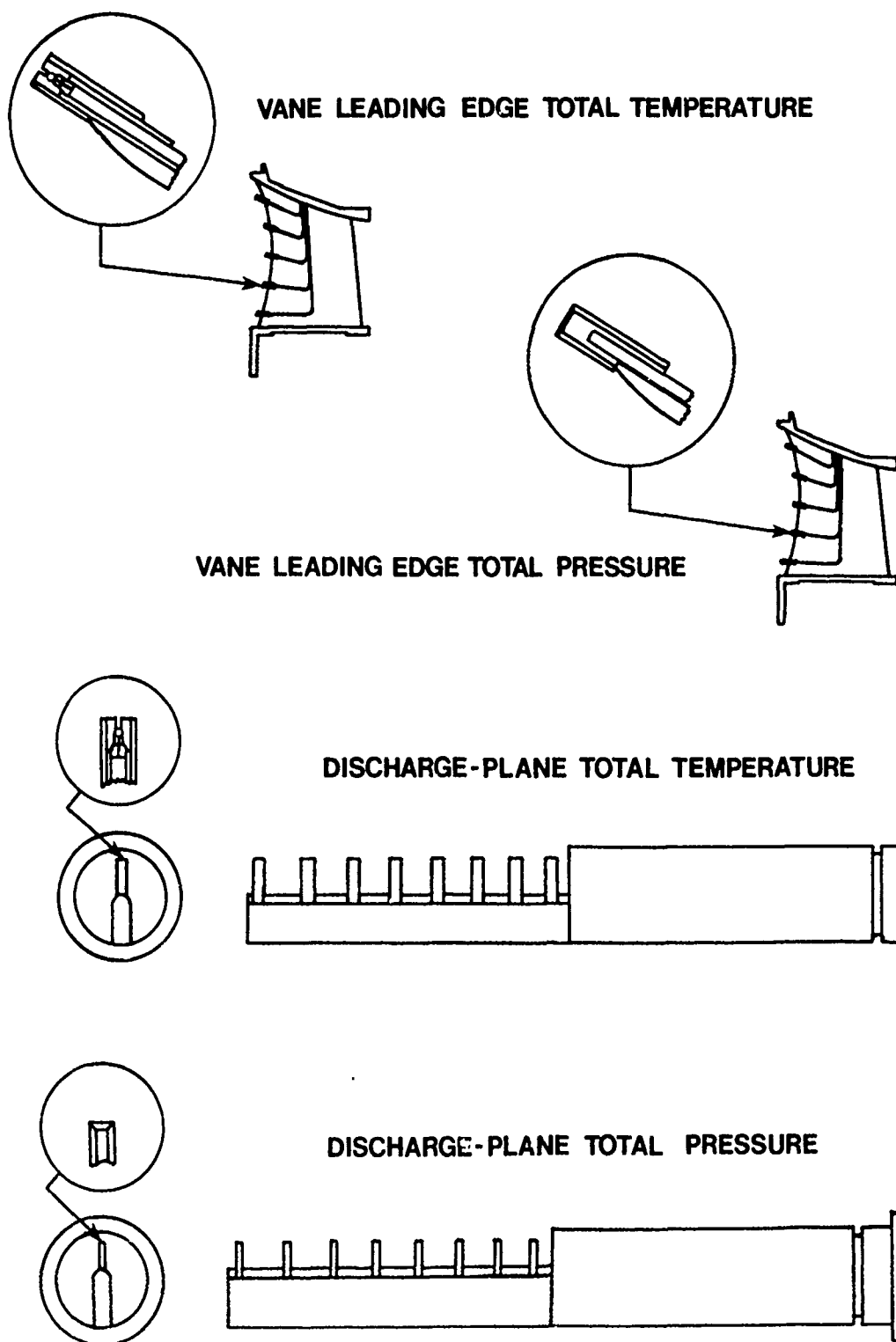


Figure 3. Vane Leading Edge and Discharge-plane Rake Instrumentation

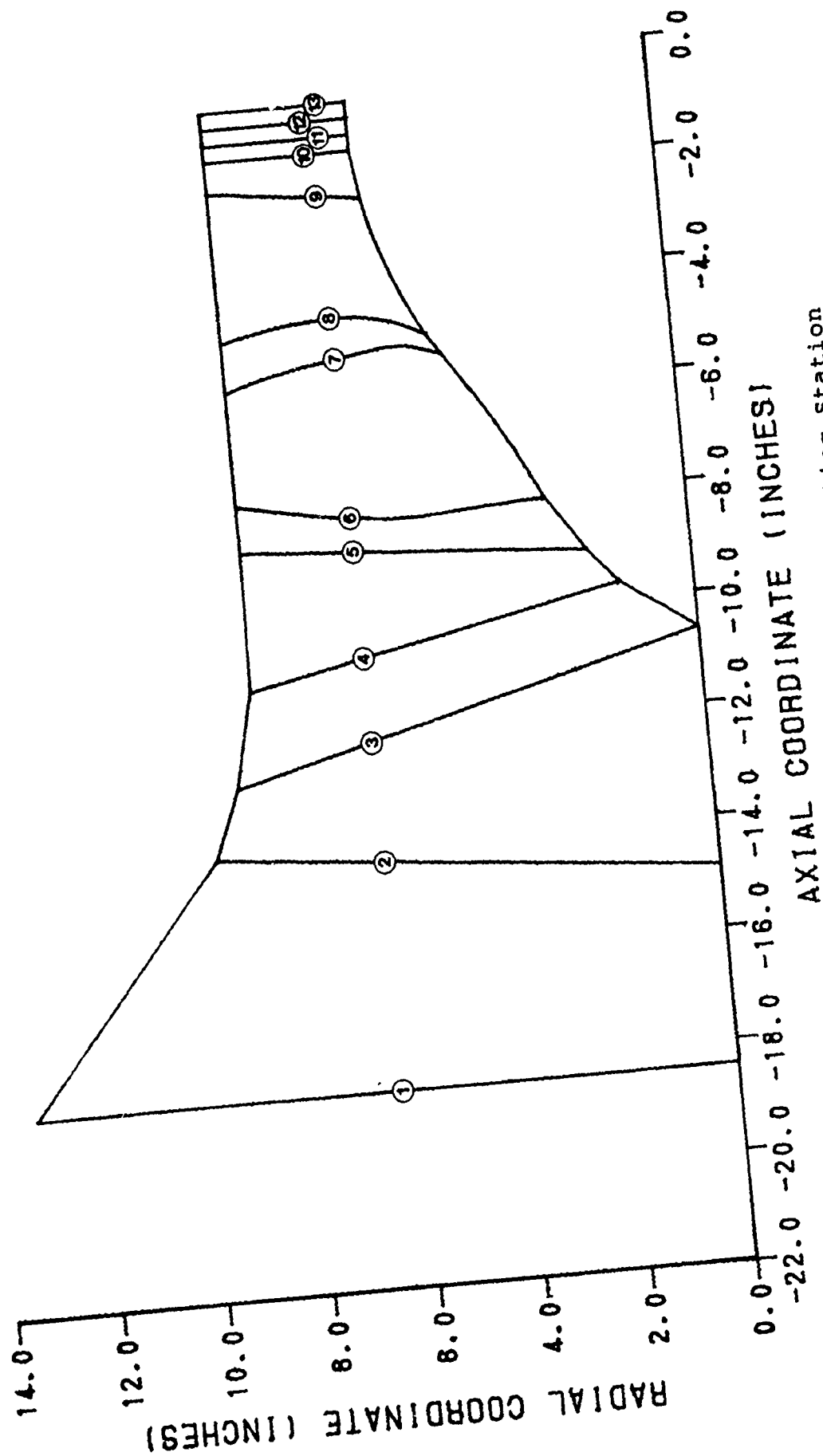


Figure 4. Across-blade Analysis Computing Station
Geometry

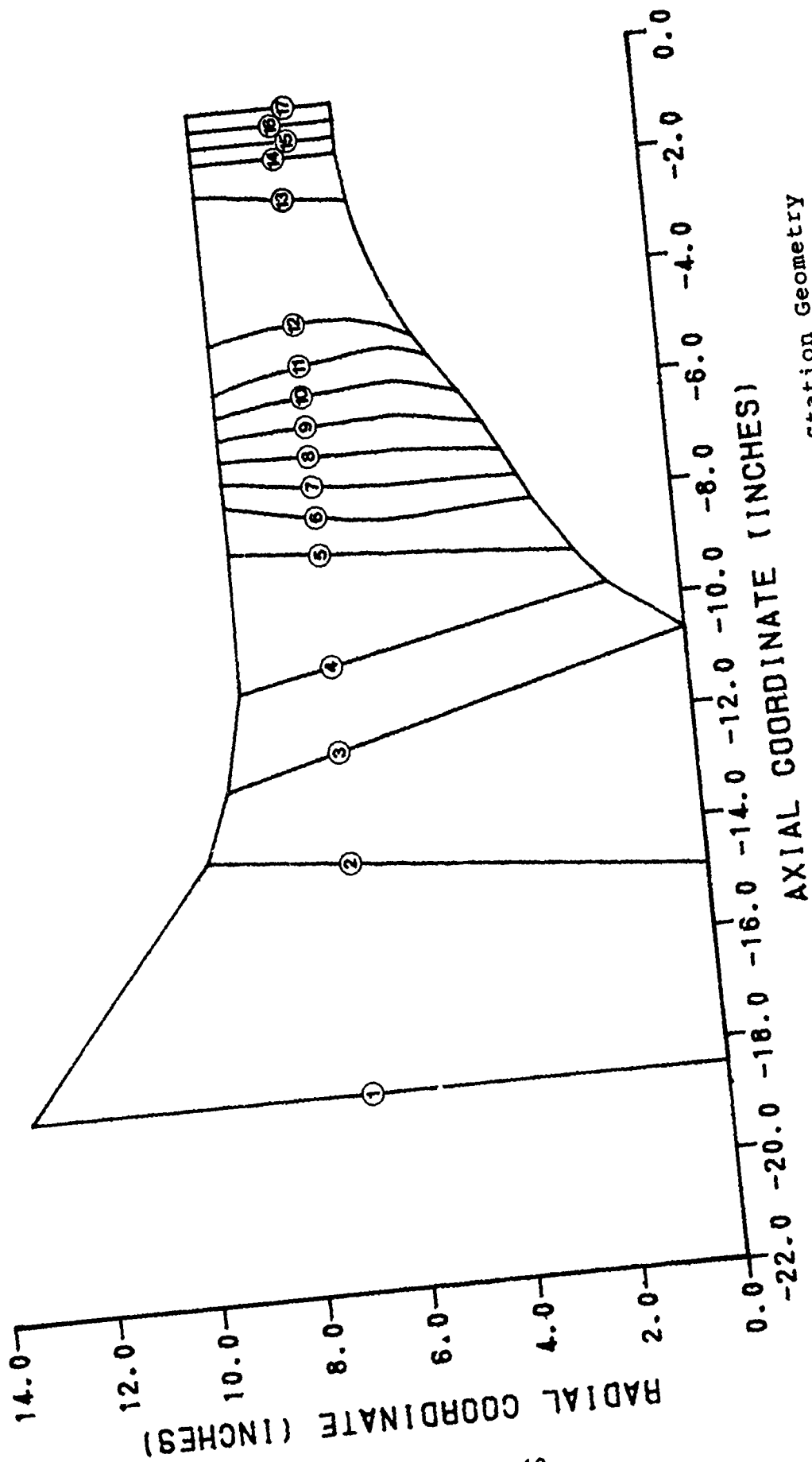


Figure 5. Thru-blade Analysis Computing Station Geometry

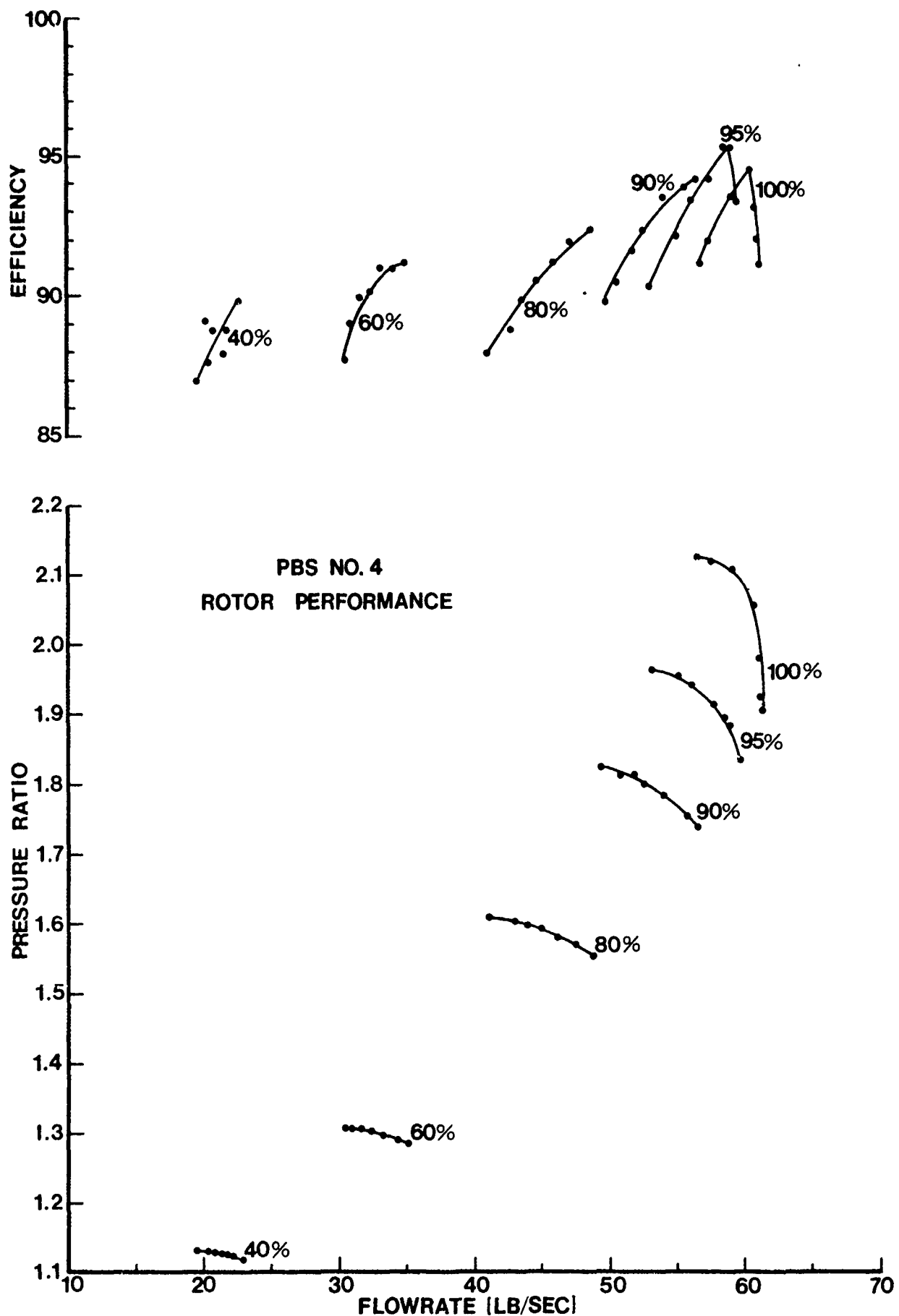


Figure 6. PBS Configuration #4 Rotor Performance

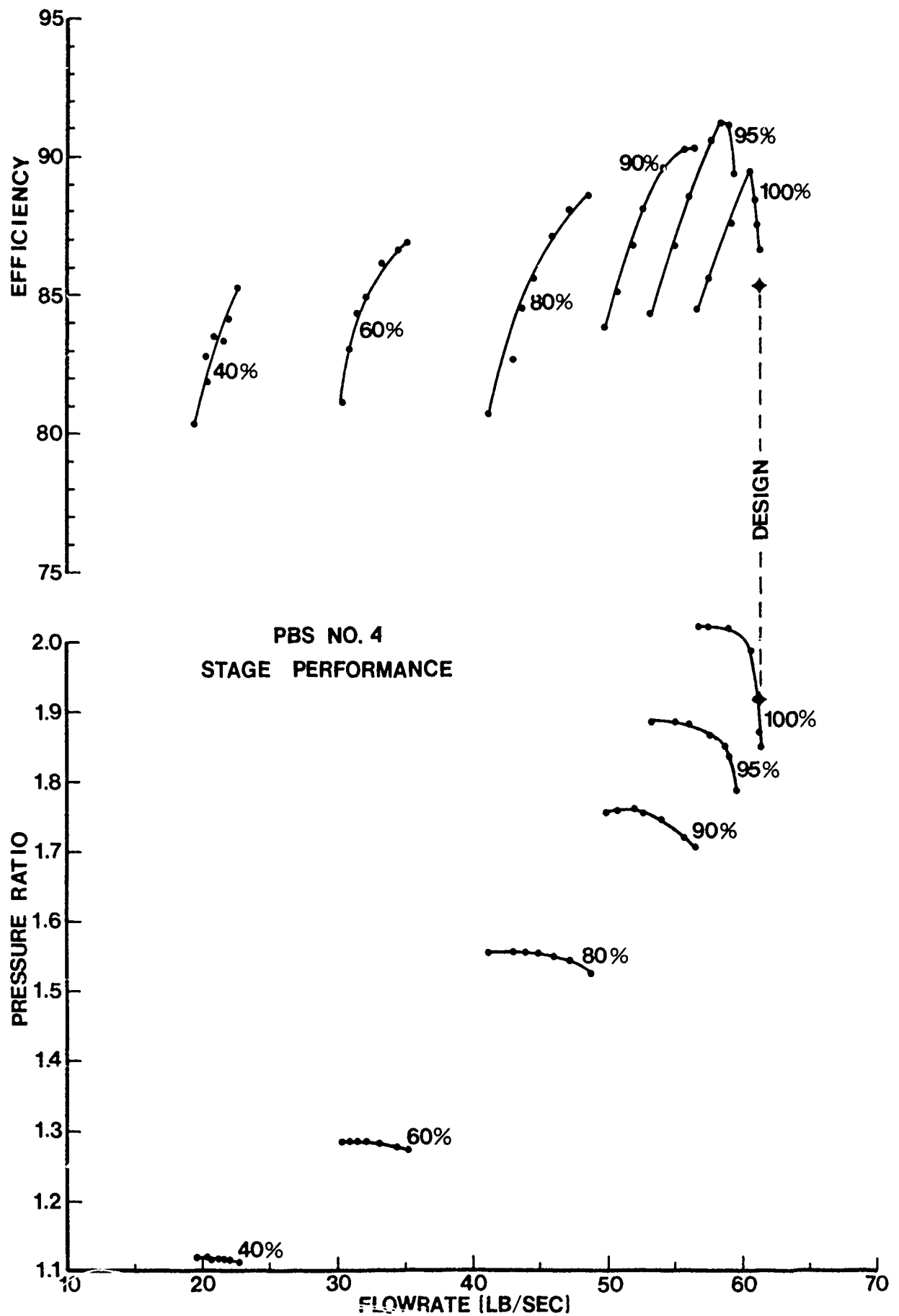


Figure 7. PBS Configuration #4 Stage Performance

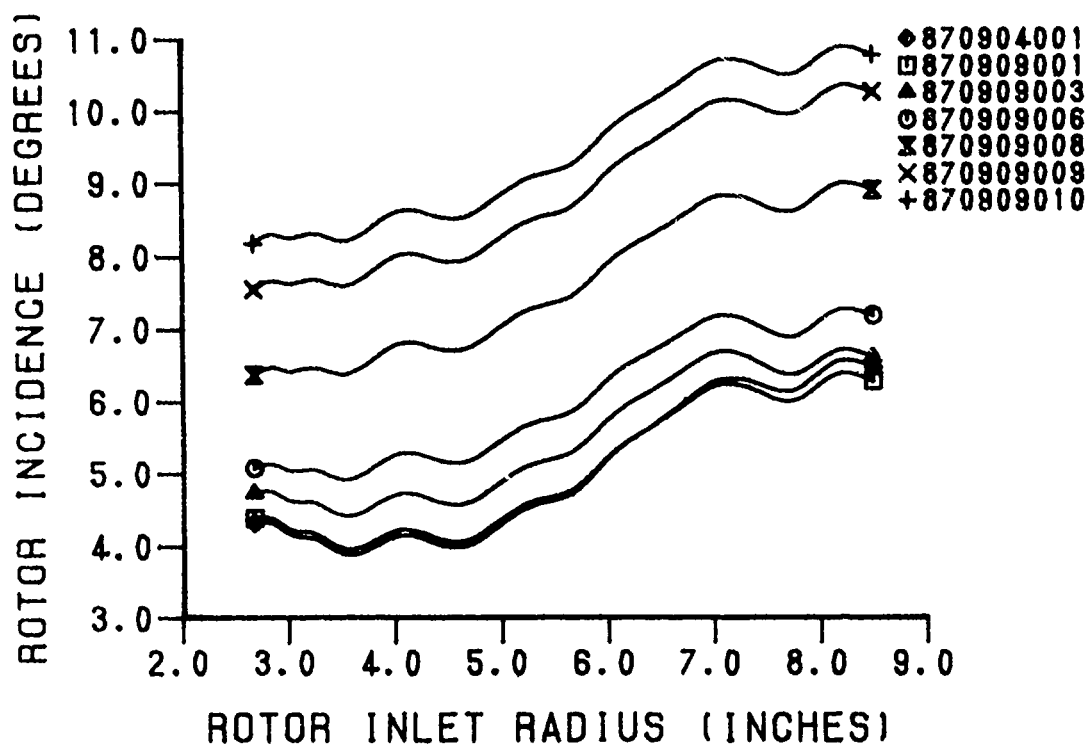


Figure 8. Rotor Incidence Angle (100% N)

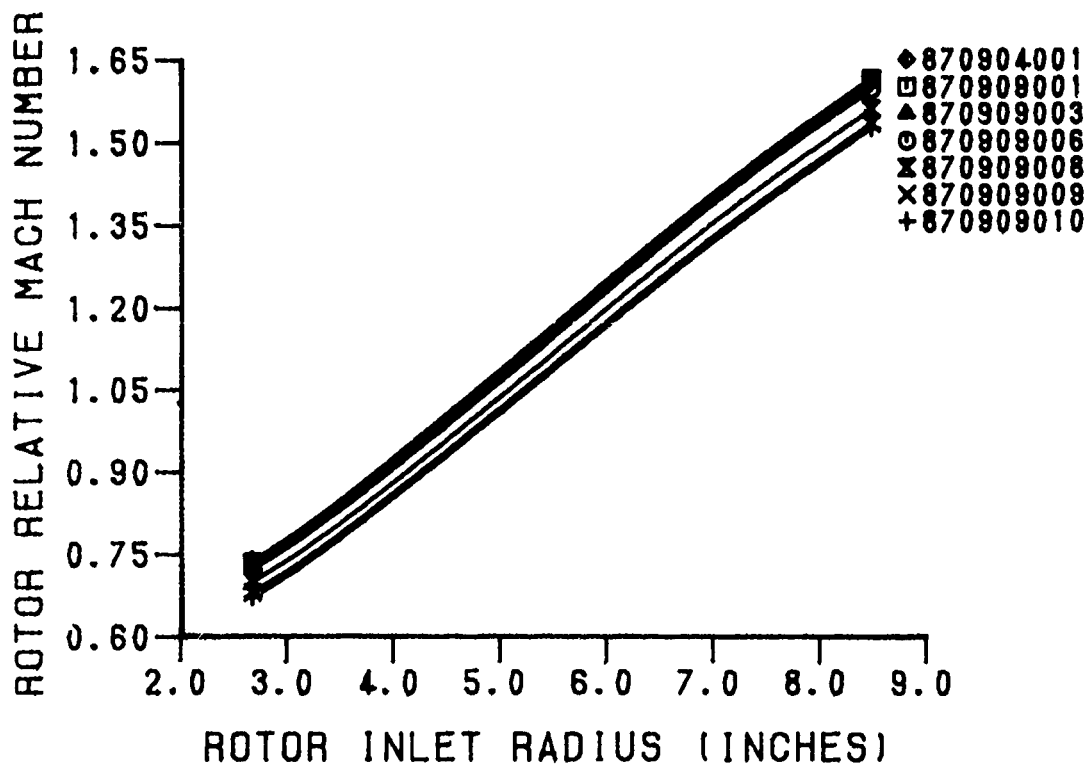


Figure 9. Rotor Relative Inlet Mach Number (100% N)

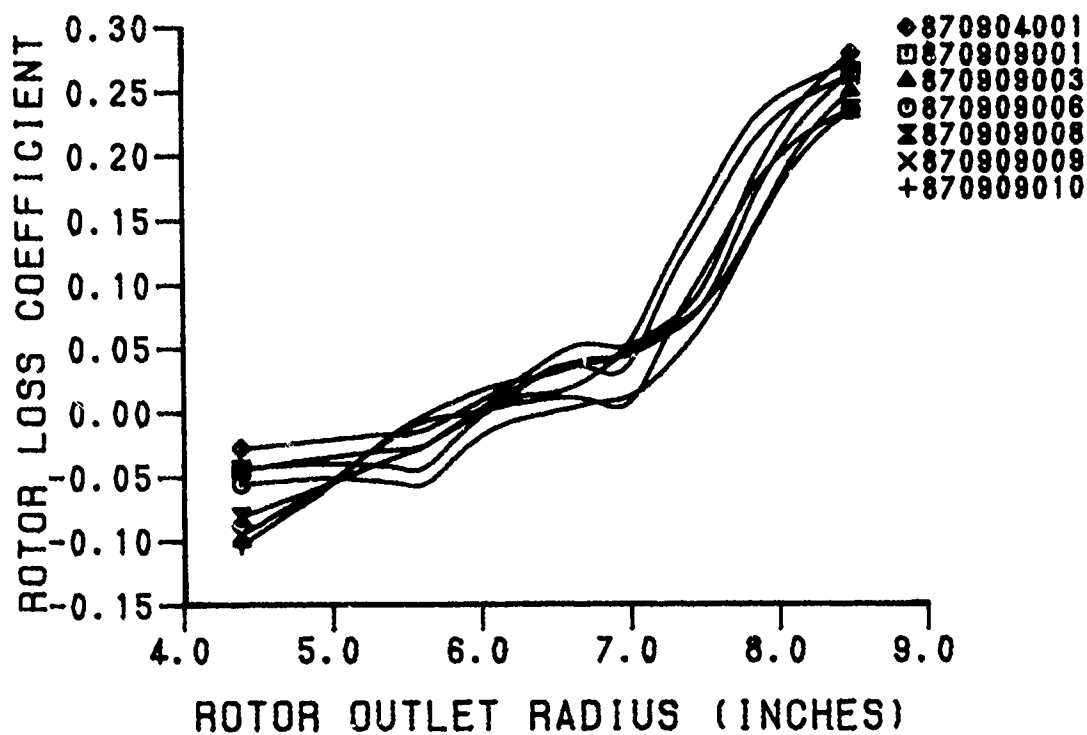


Figure 10. Rotor Loss Coefficient (100% N)

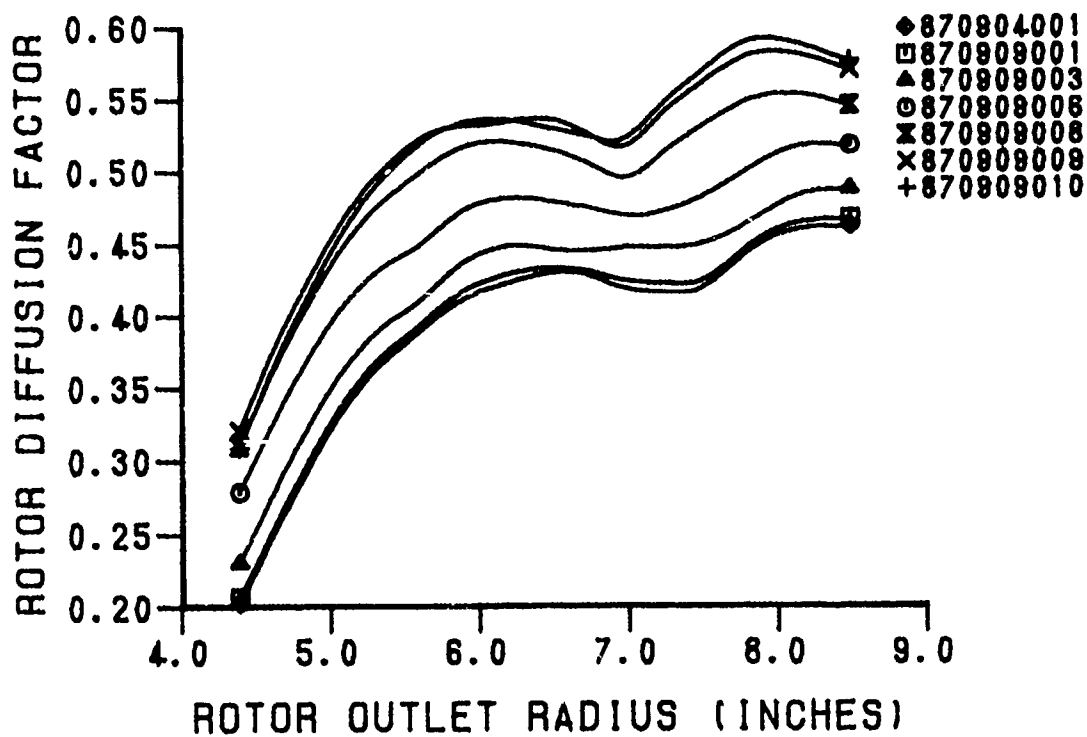


Figure 11. Rotor Diffusion Factor (100% N)

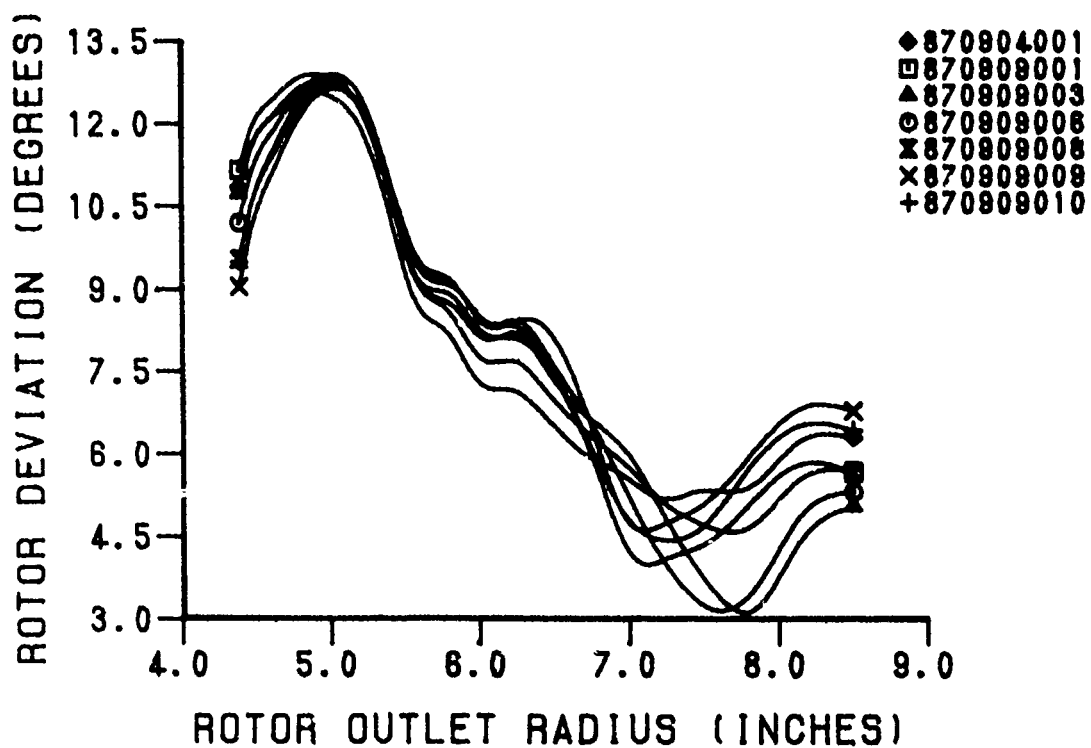


Figure 12. Rotor Deviation Angle (100% N)

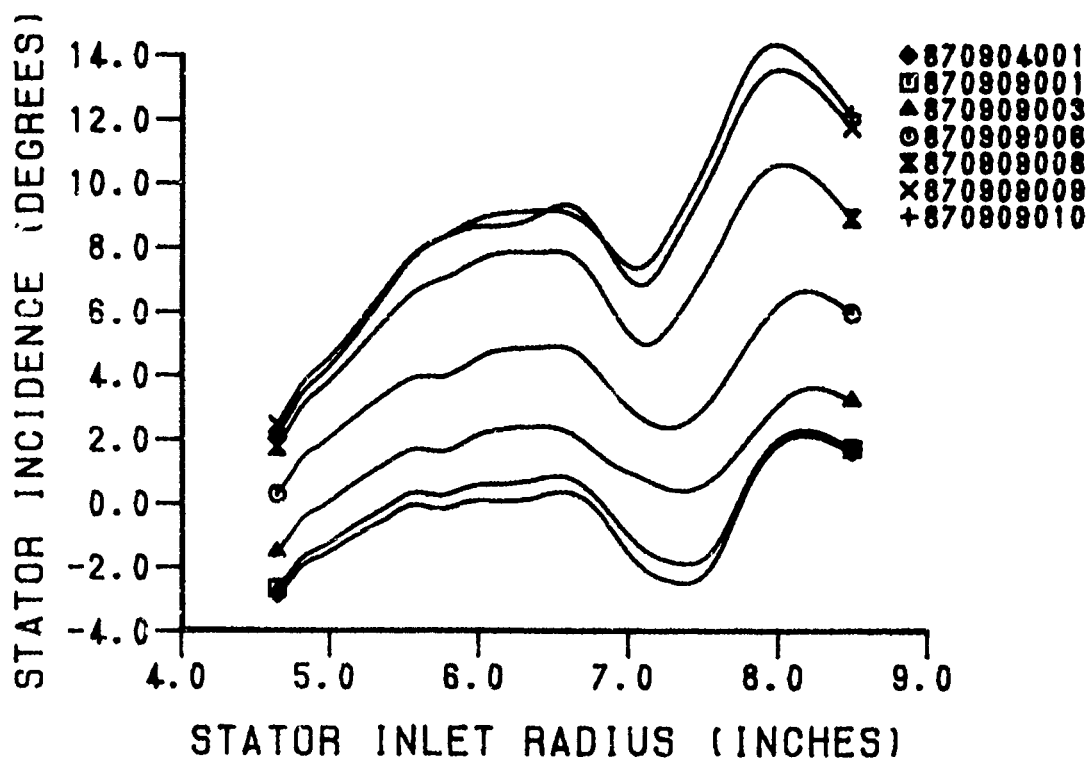


Figure 13. Stator Incidence Angle (100% N)

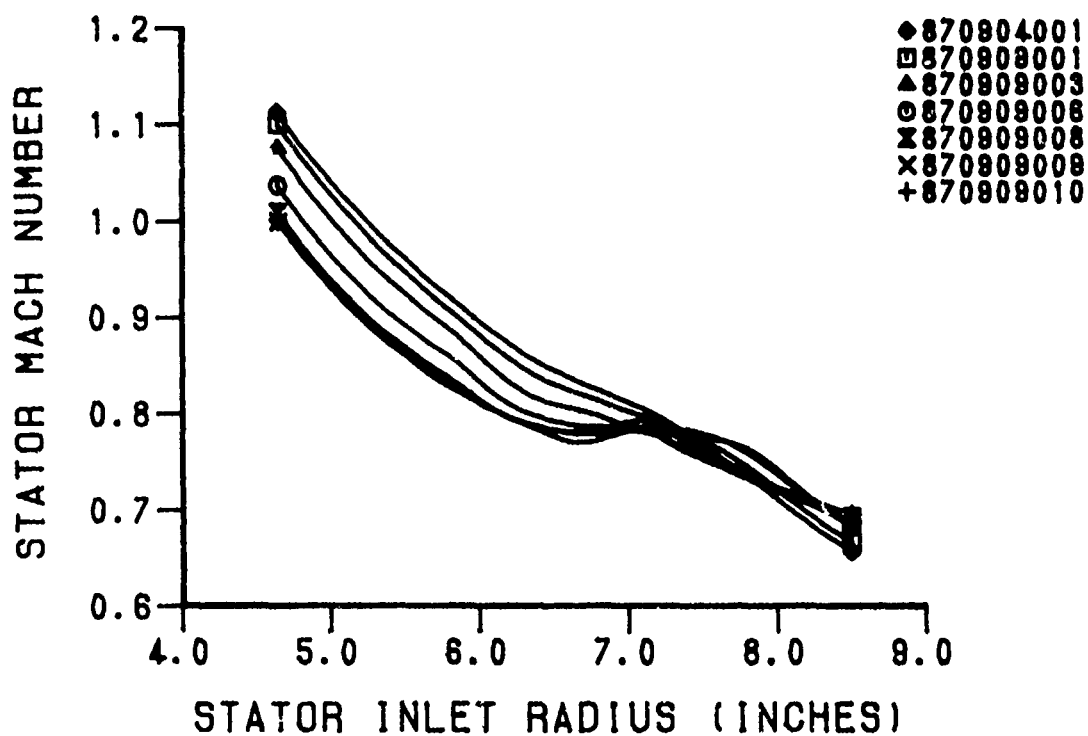


Figure 14. Stator Absolute Inlet Mach Number (100% N)

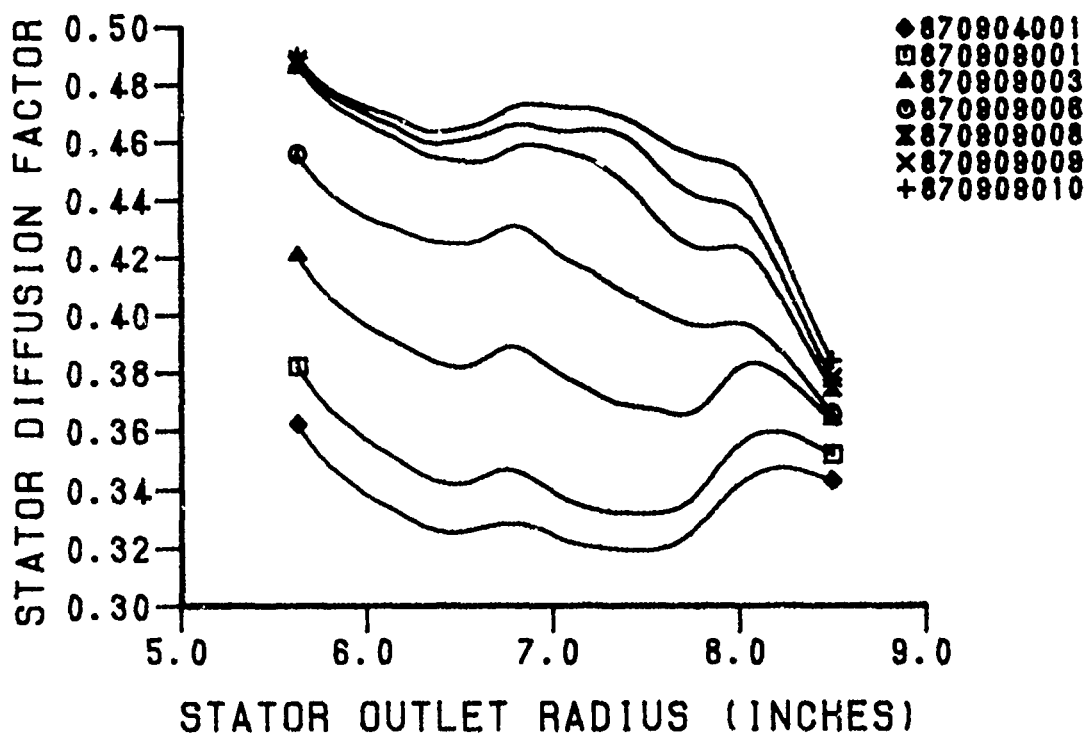


Figure 15. Stator Diffusion Factor (100% N)

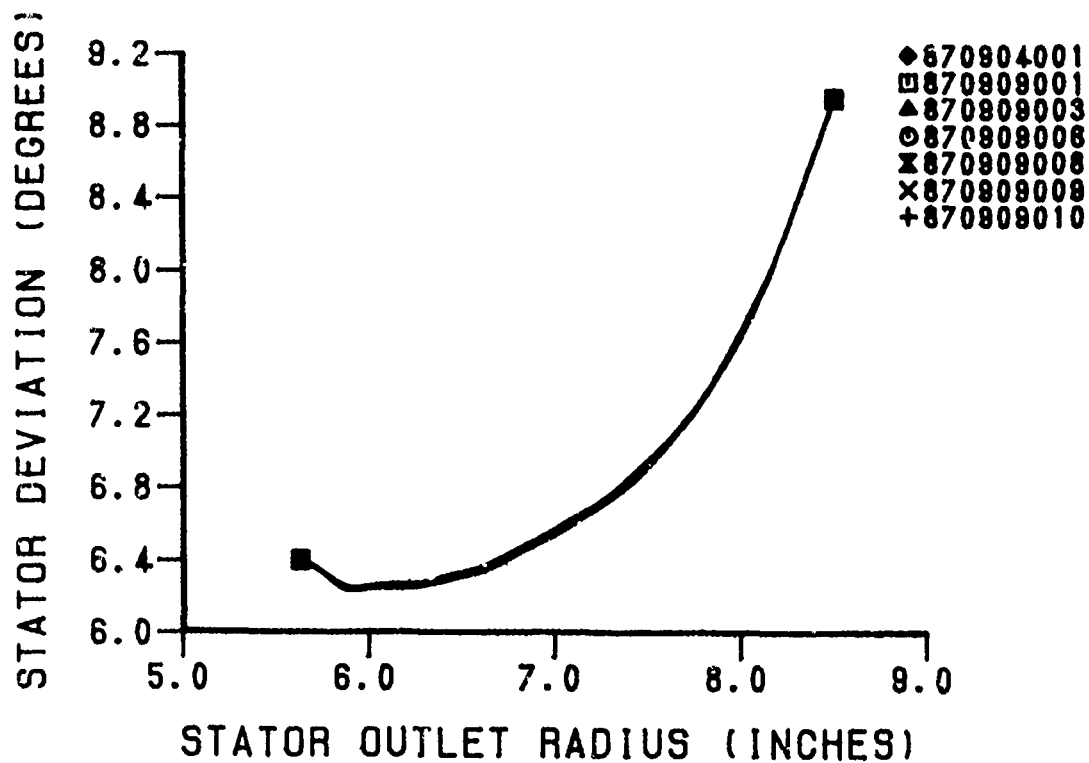


Figure 16. Stator Deviation Angle (100% N)

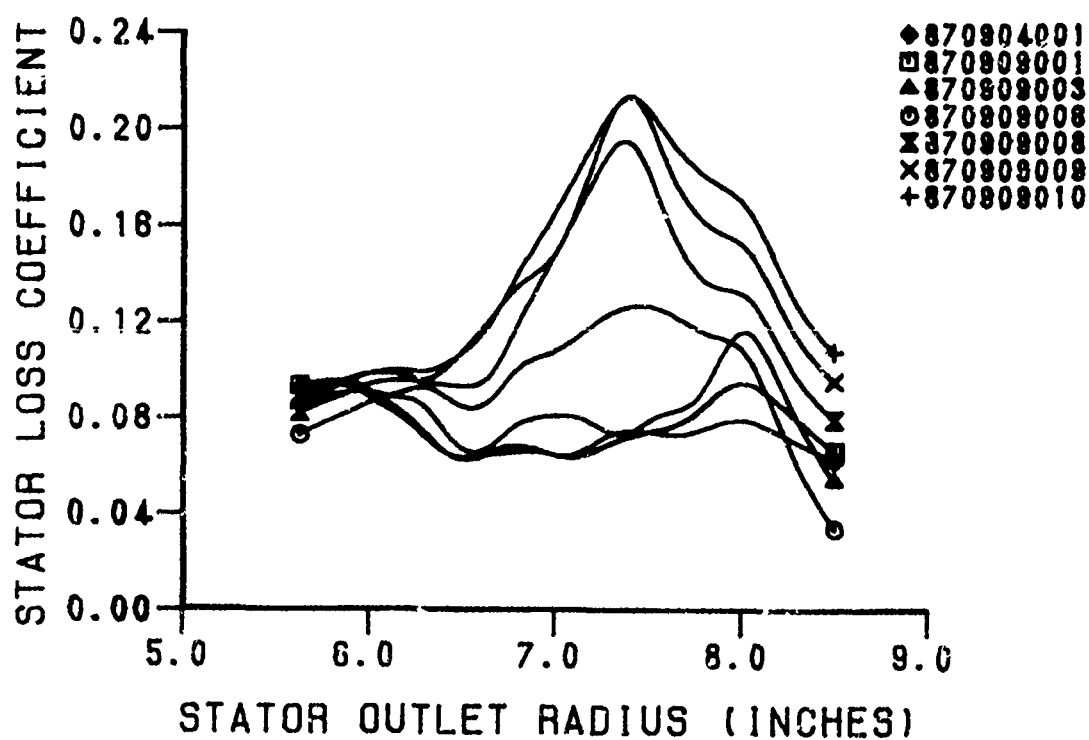
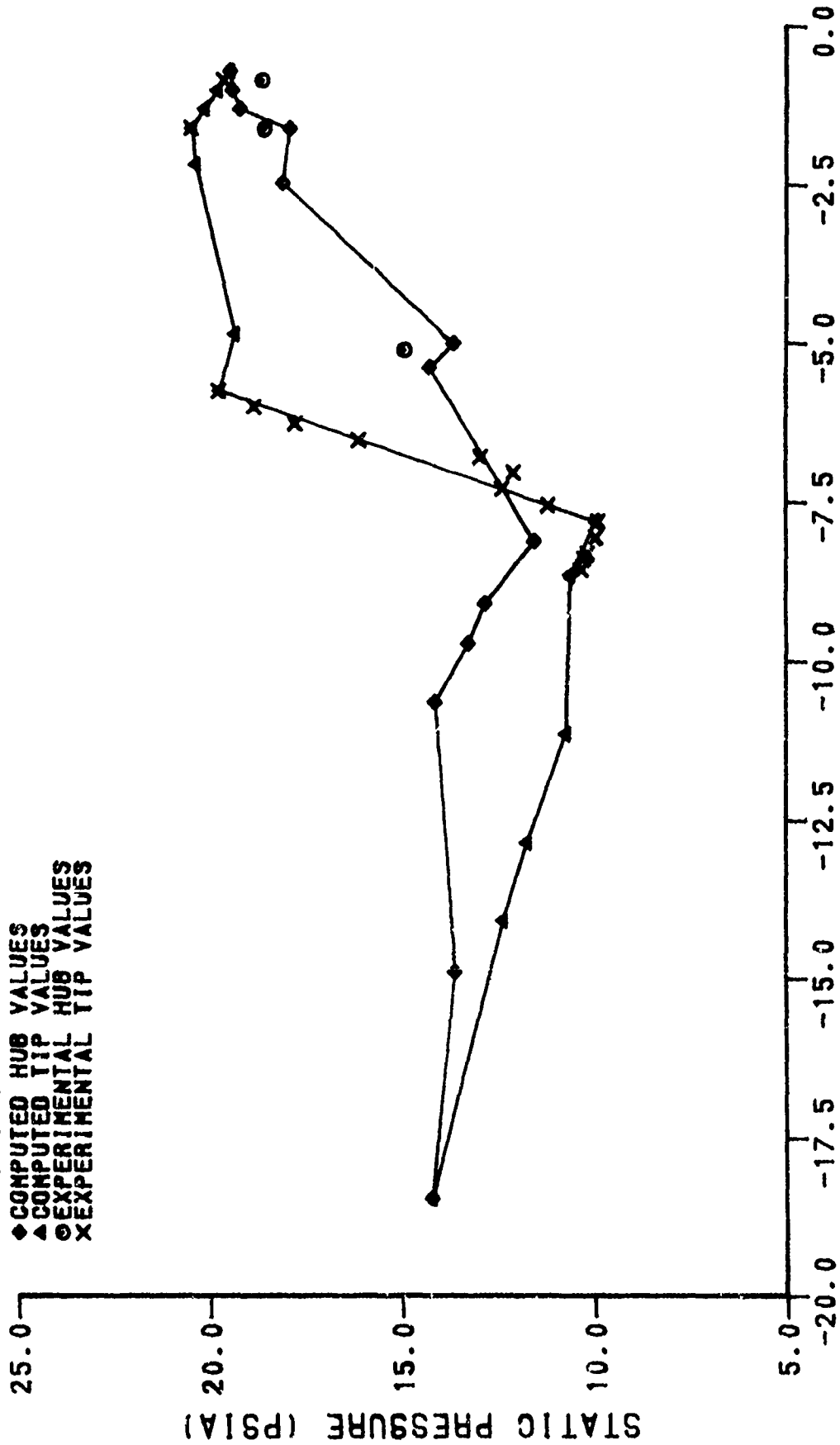


Figure 17. Stator Loss Coefficient (100% N)

870904001

◆ COMPUTED HUB VALUES
 ▲ COMPUTED TIP VALUES
 ○ EXPERIMENTAL HUB VALUES
 x EXPERIMENTAL TIP VALUES



AXIAL COORDINATE (INCHES)

Figure 18. Static Pressure Distribution (870904001)

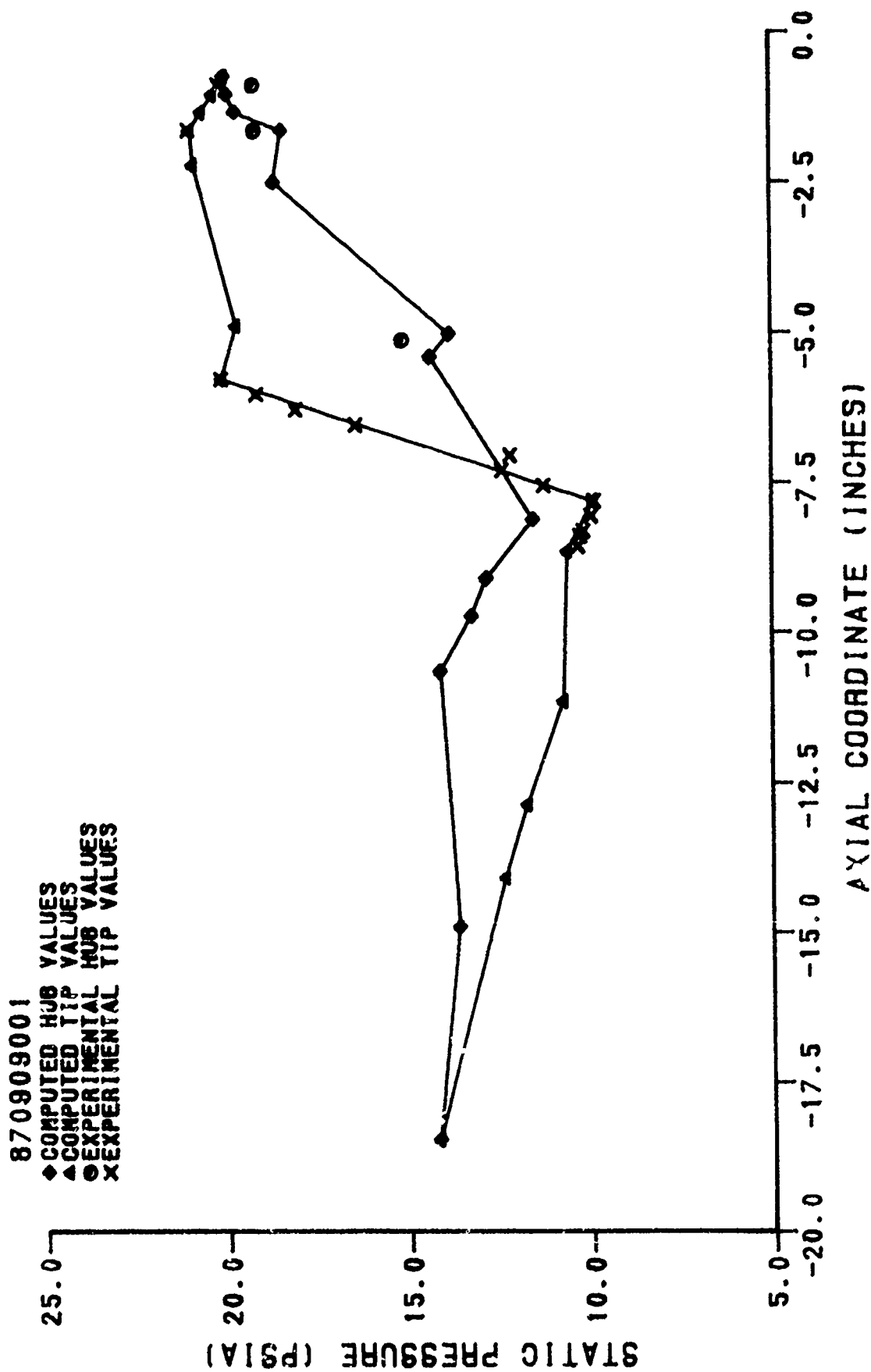


Figure 19. Static Pressure Distribution (870909001)

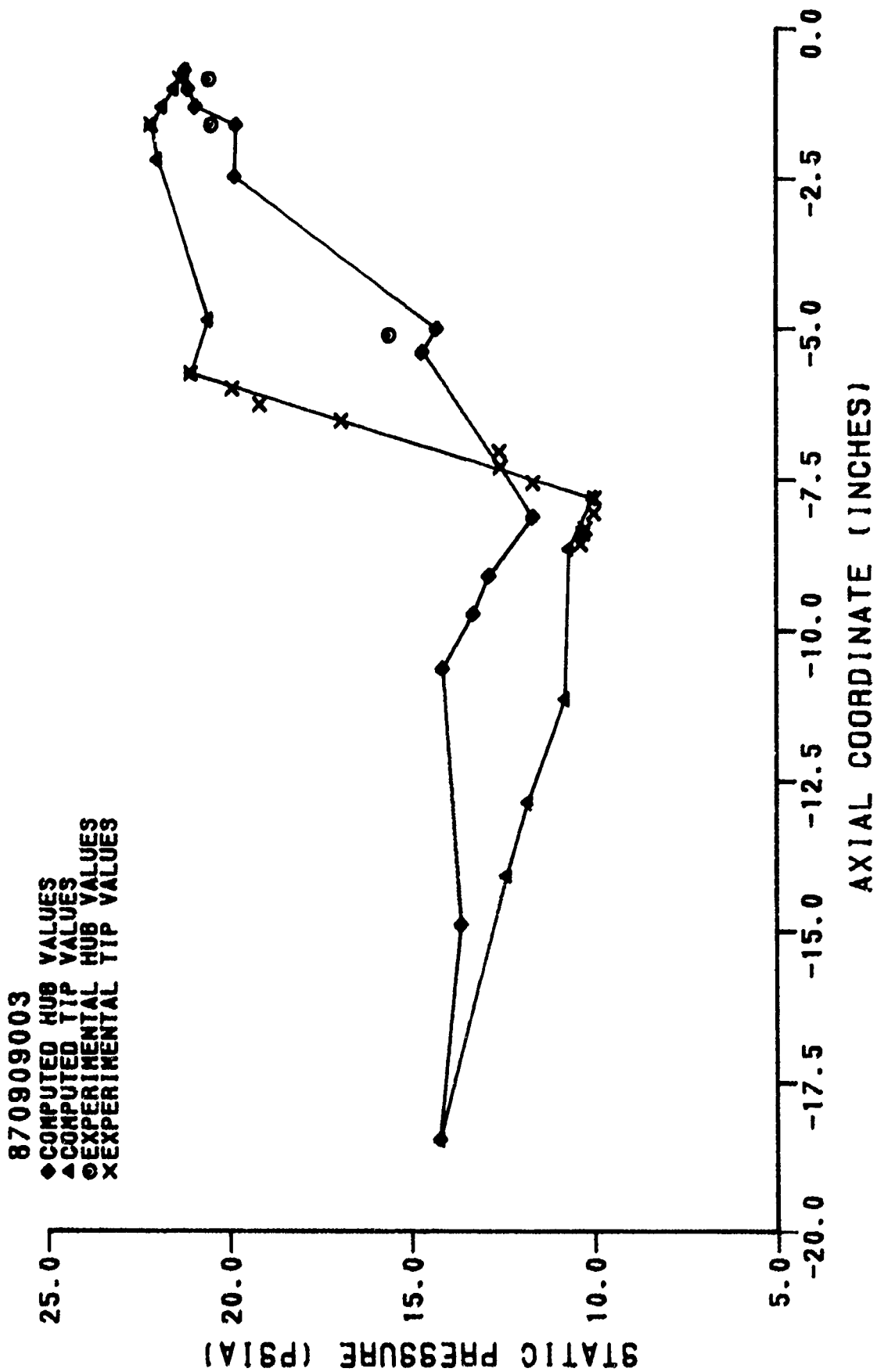


Figure 20. Static Pressure Distribution (870909003)

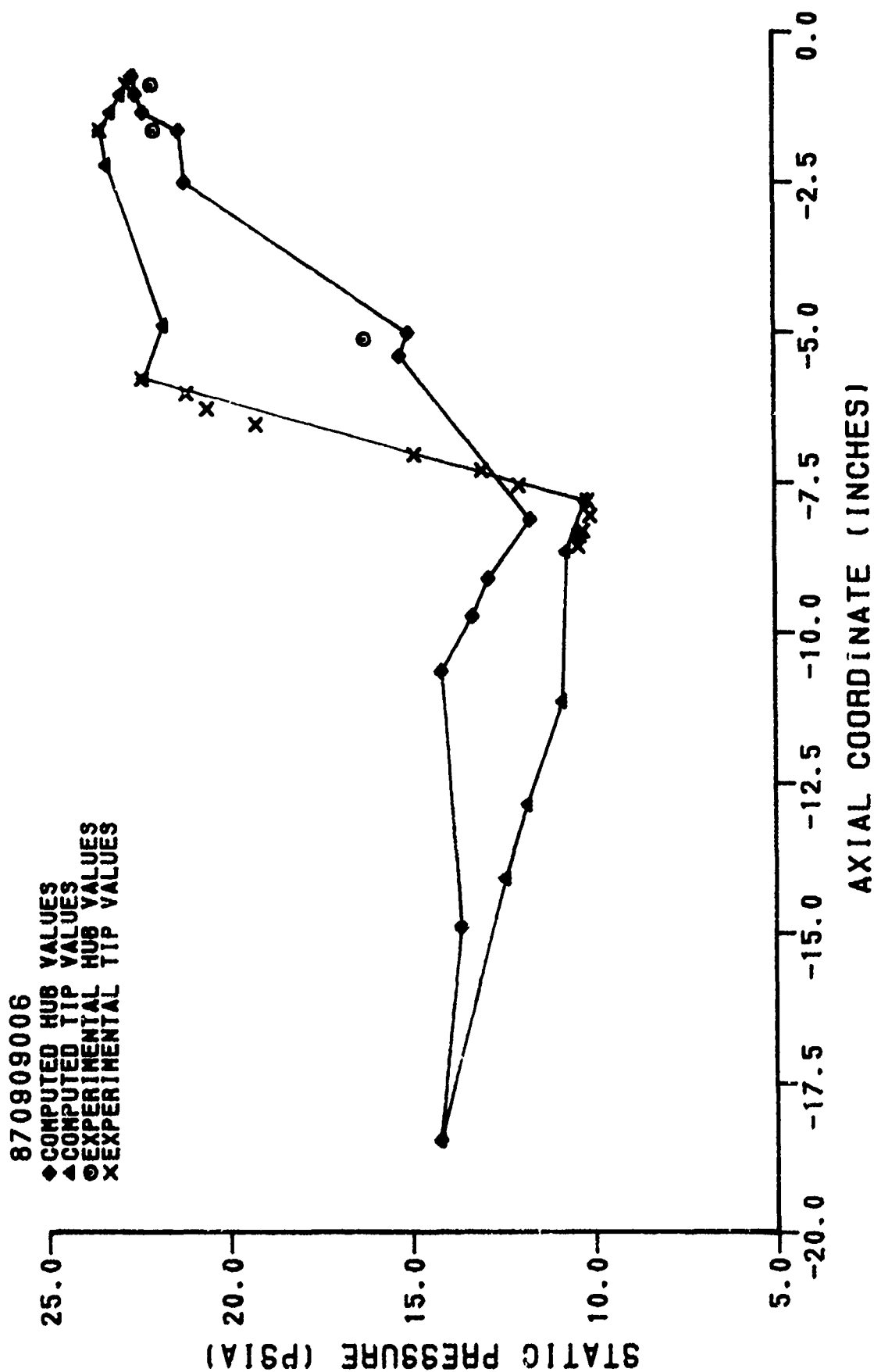


Figure 21. Static Pressure Distribution (870909006)

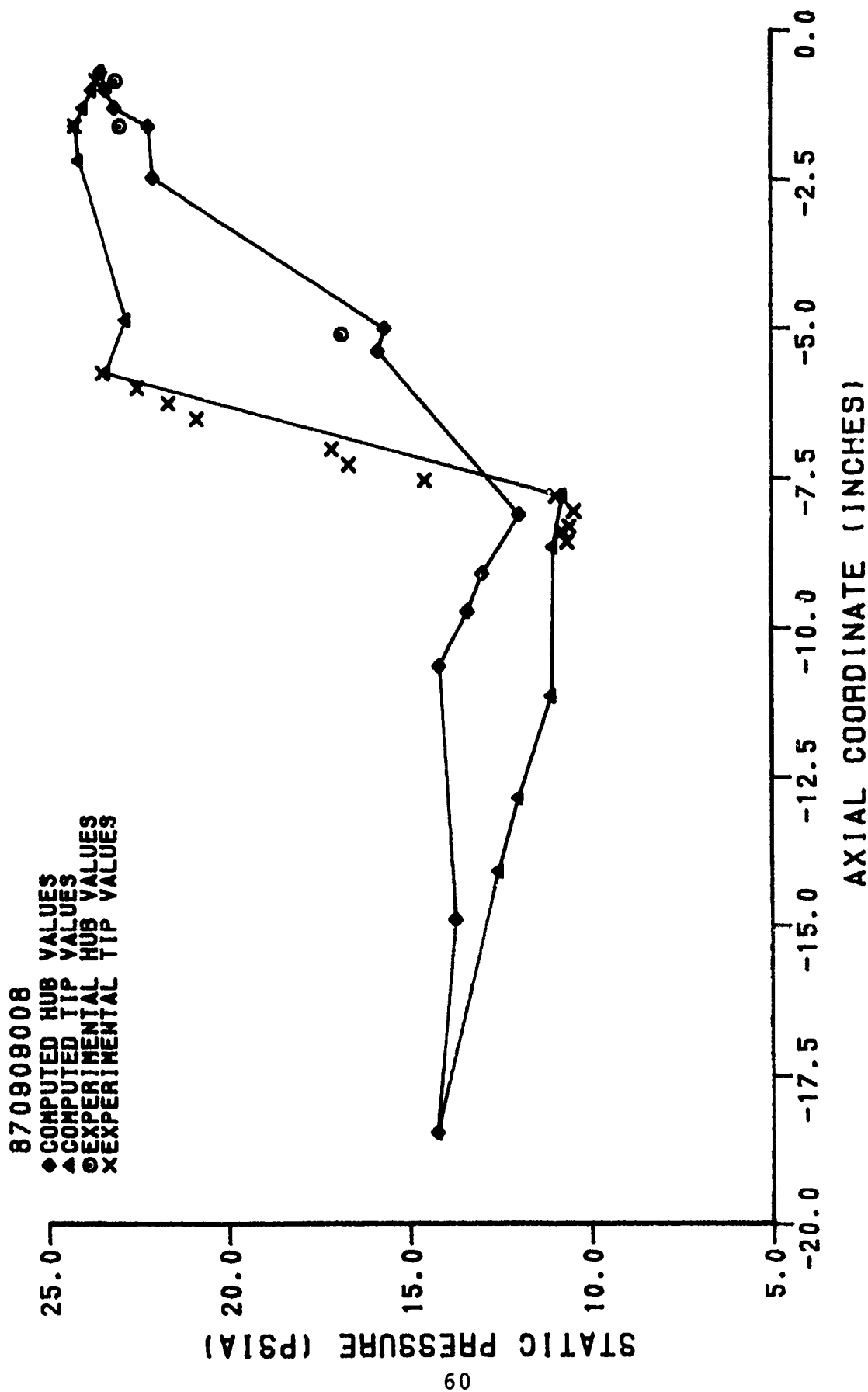


Figure 22. Static Pressure Distribution (870909008)

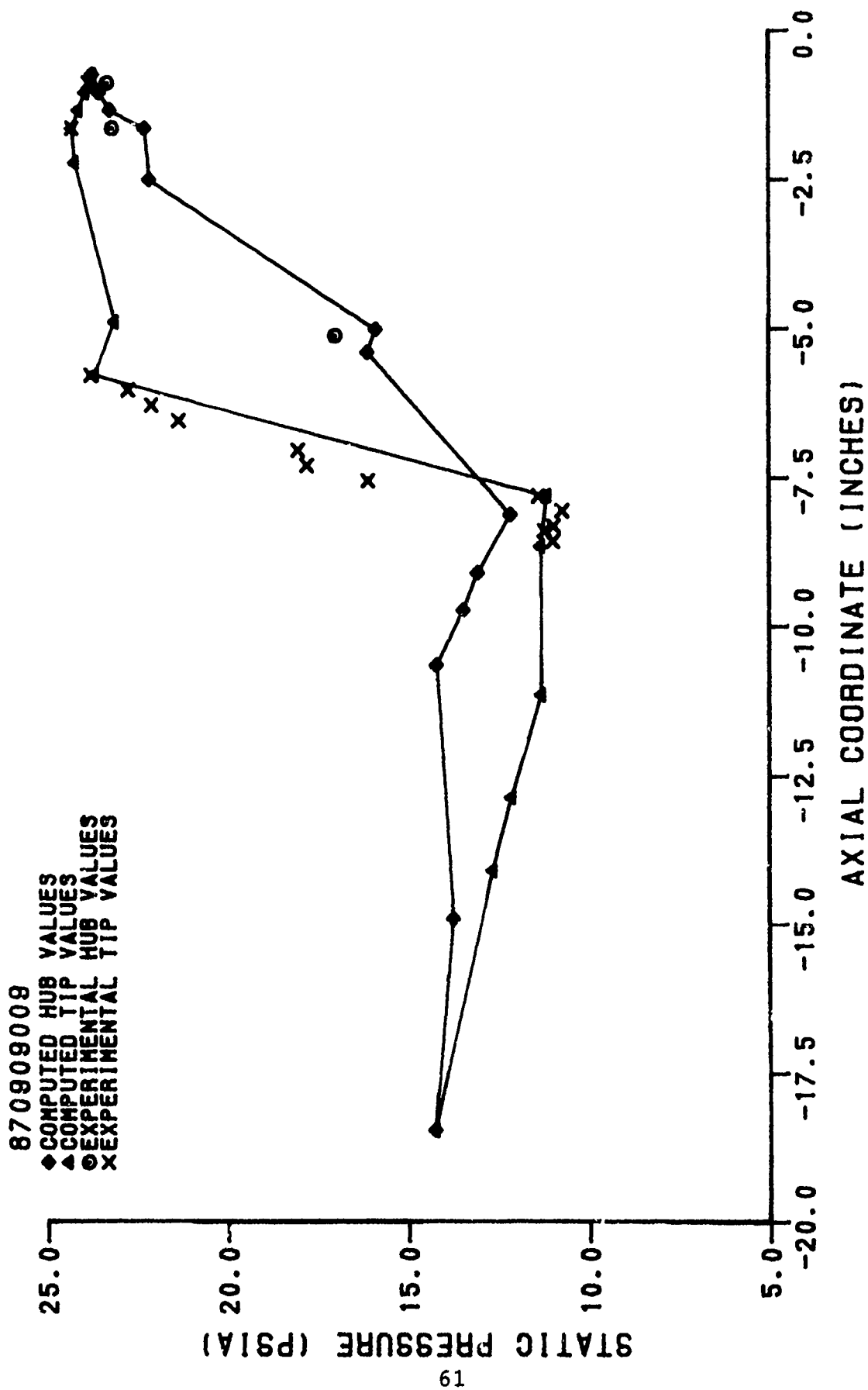


Figure 23. Static Pressure Distribution (870909009)

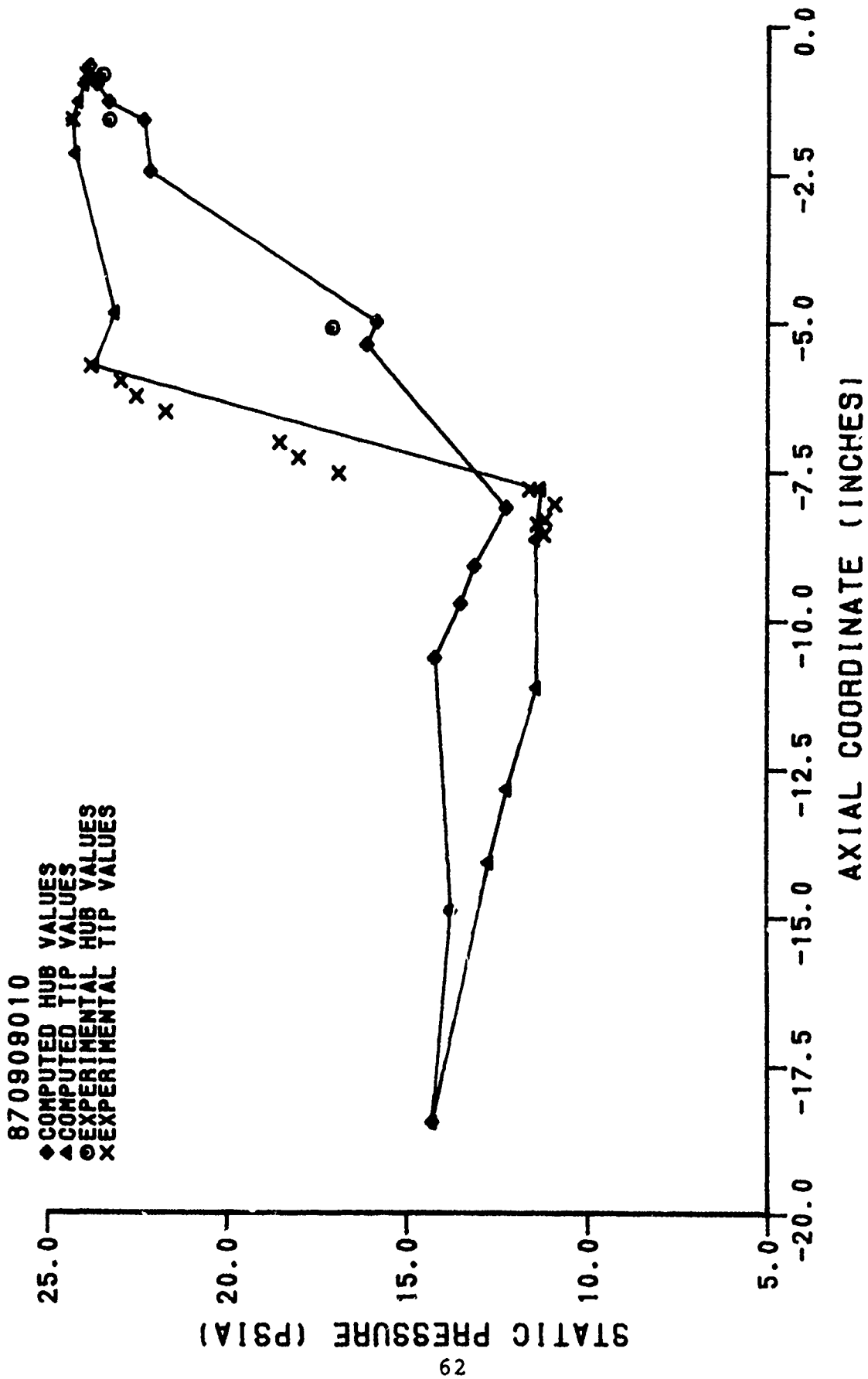


Figure 24. Static Pressure Distribution (870909010)

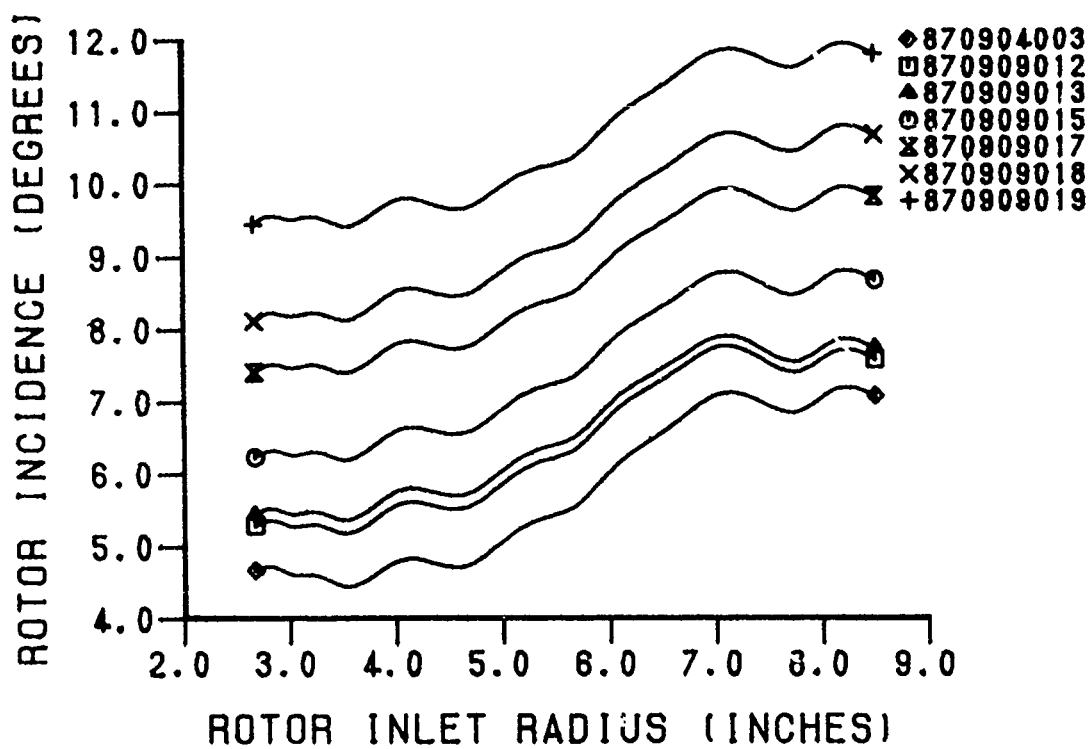


Figure 25. Rotor Incidence Angle (95% N)

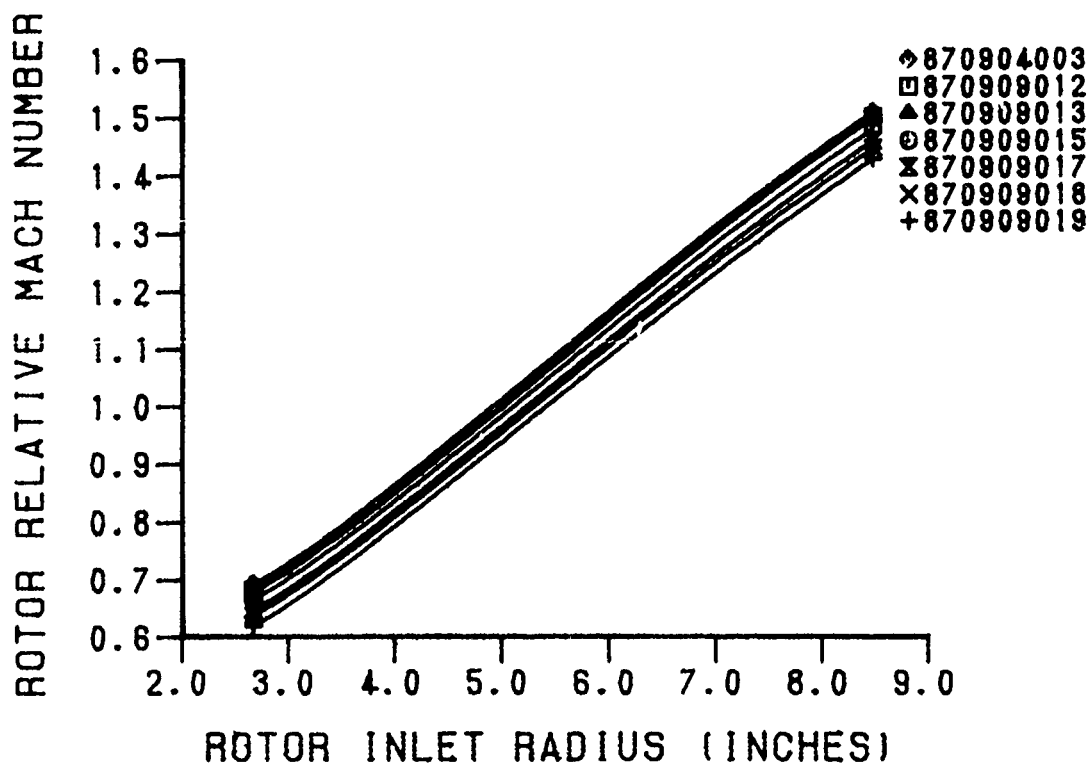


Figure 26. Rotor Relative Inlet Mach Number (95% N)

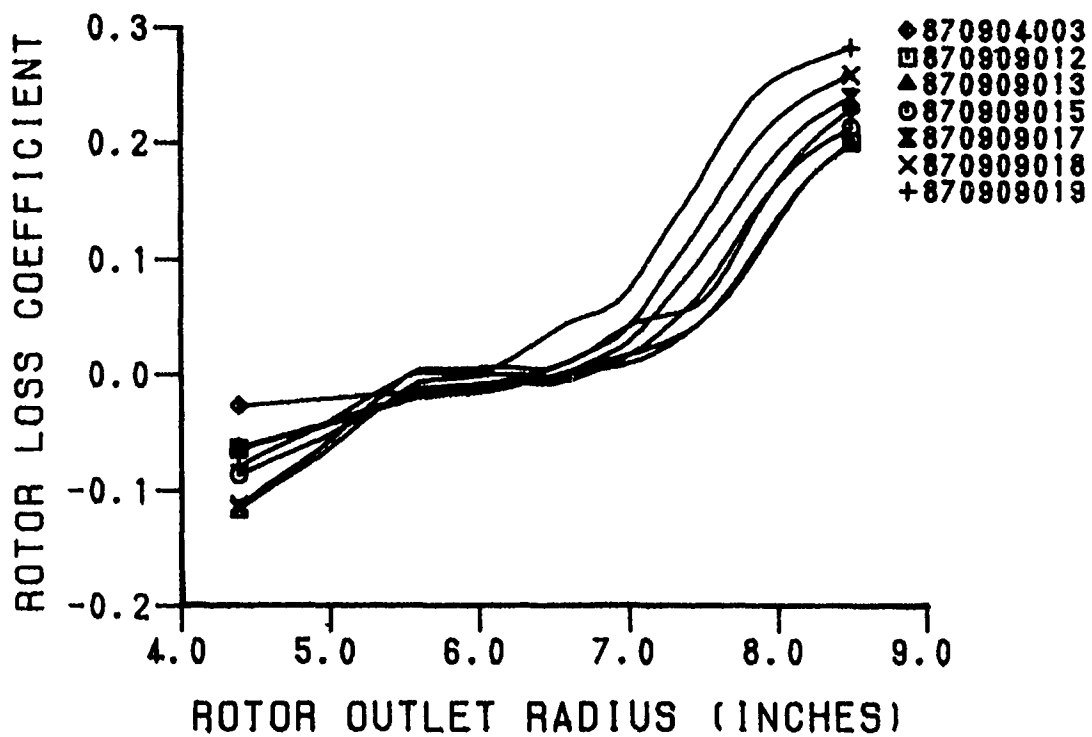


Figure 27. Rotor Loss Coefficient (95% N)

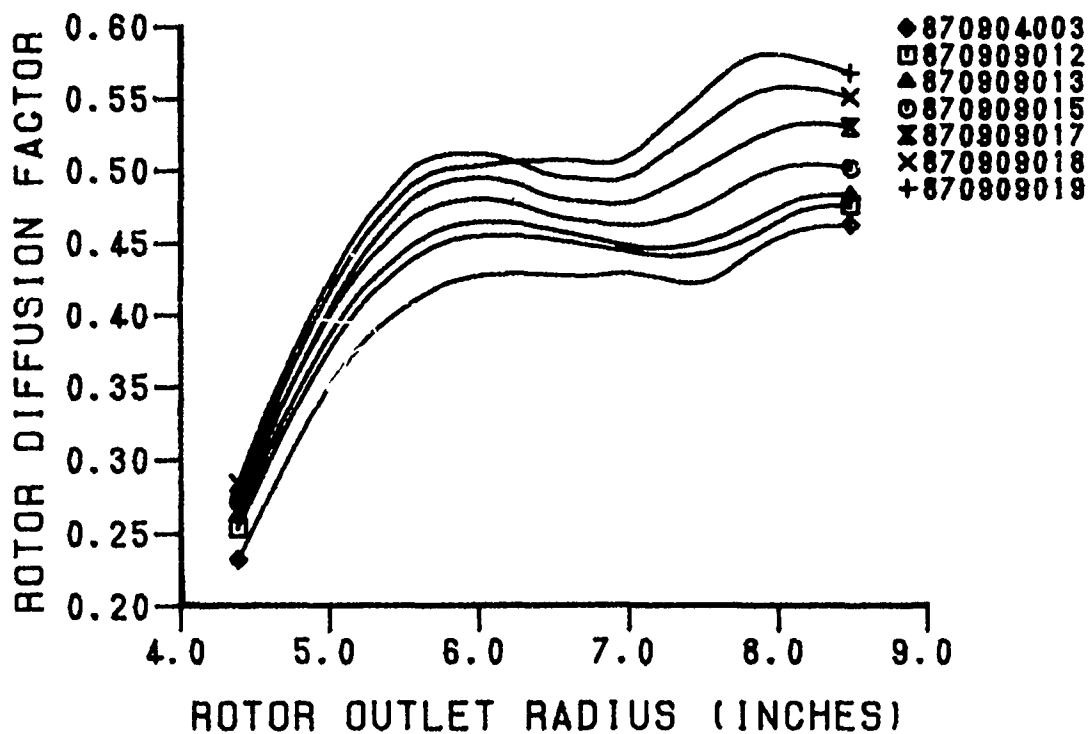
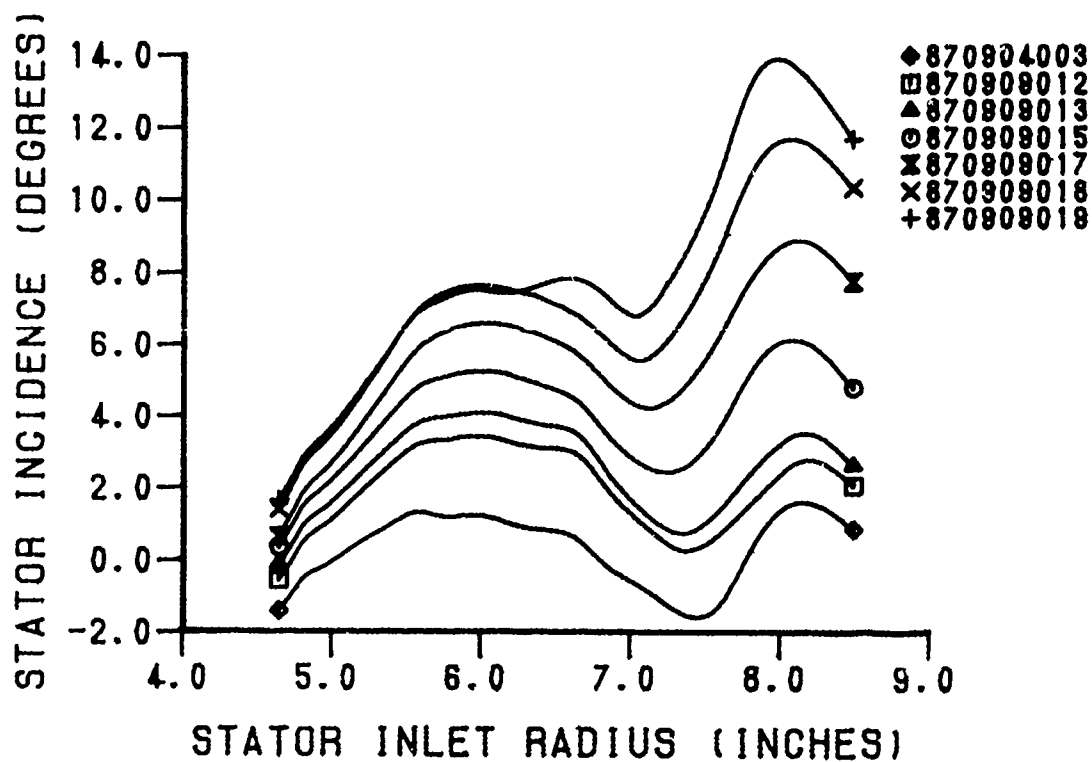
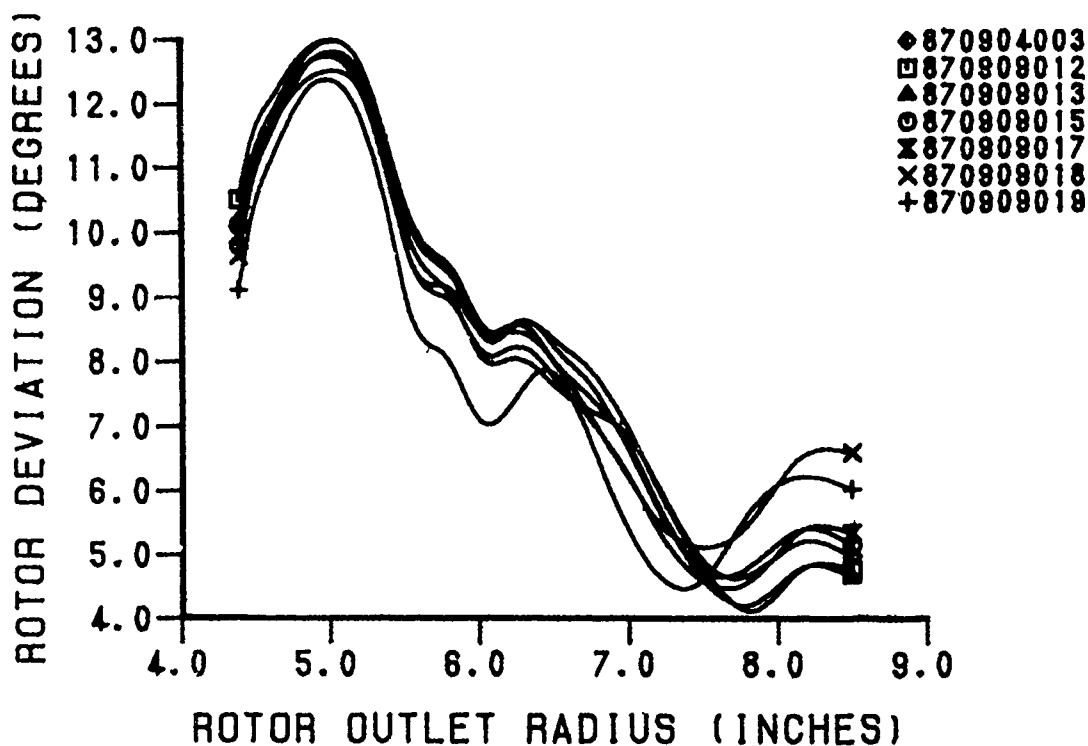


Figure 28. Rotor Diffusion Factor (95% N)



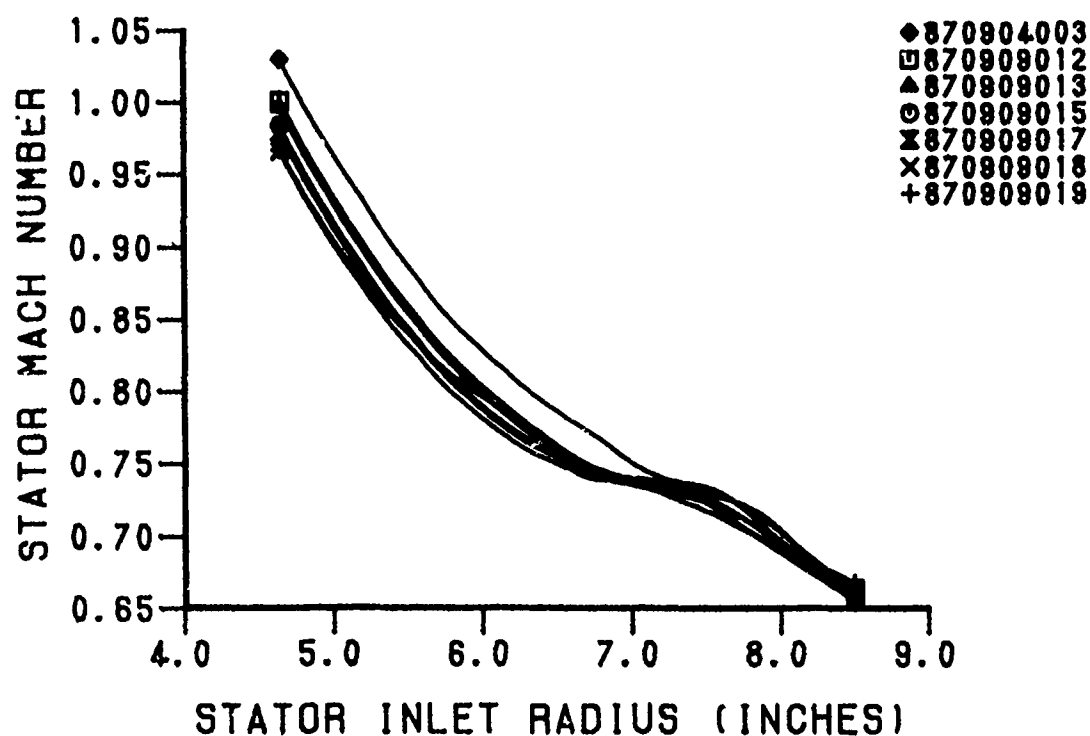


Figure 31. Stator Absolute Inlet Mach Number (95% N)

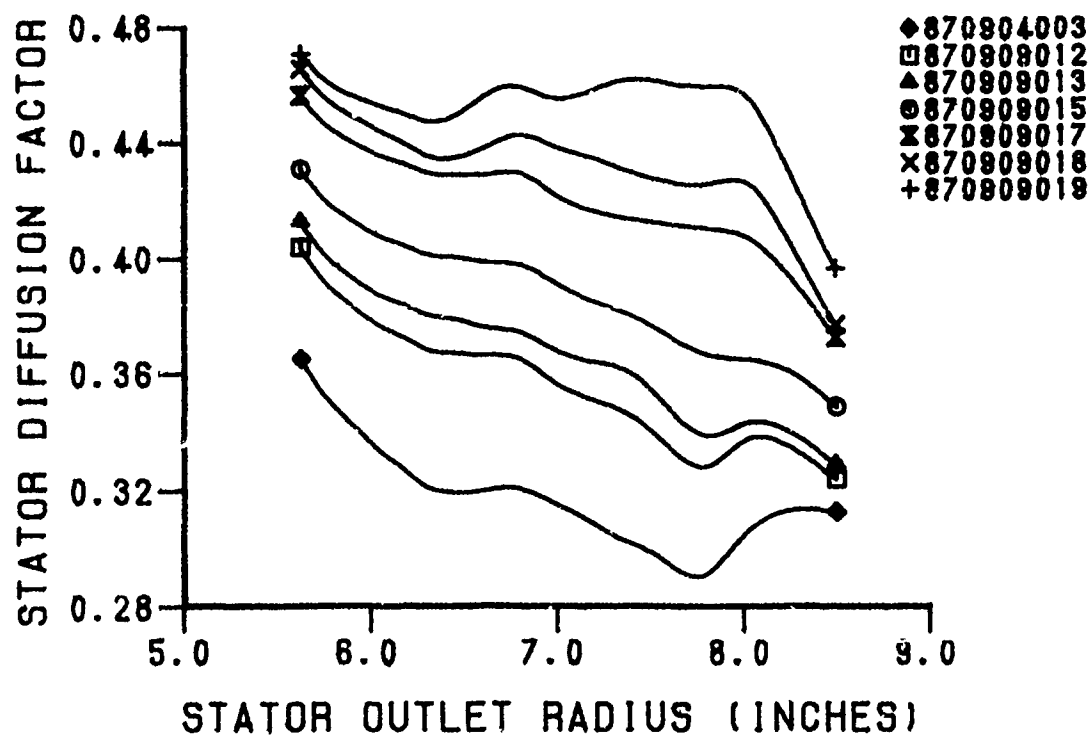


Figure 32. Stator Diffusion Factor (95% N)

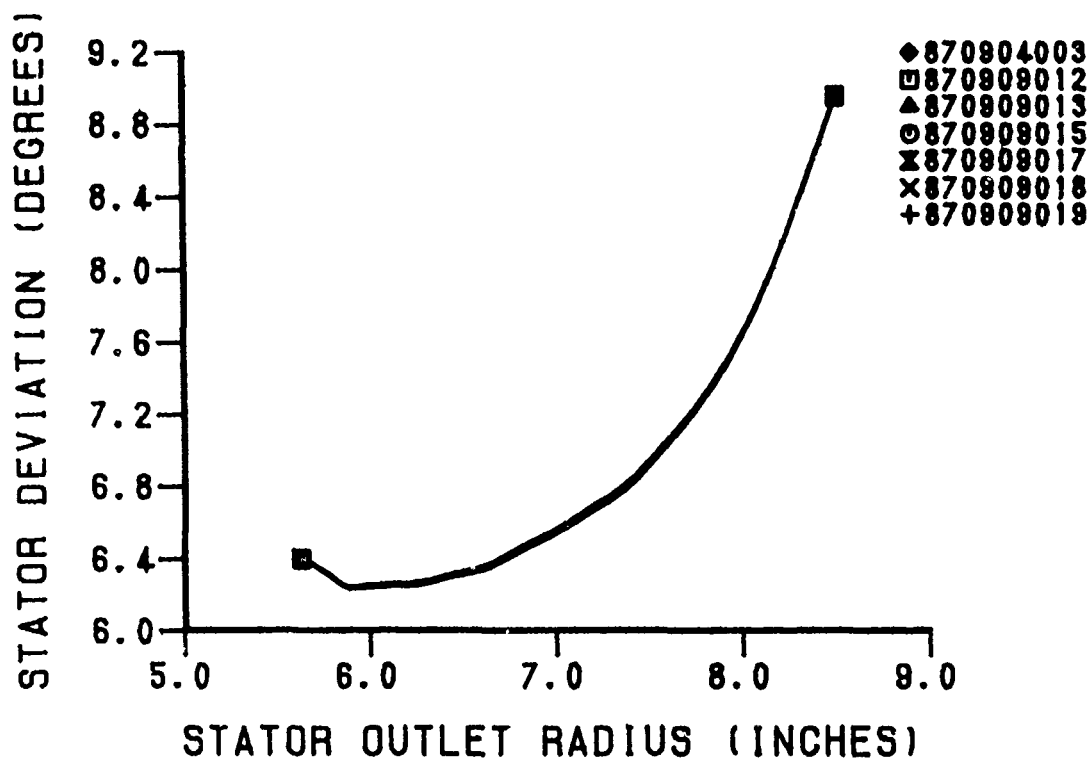


Figure 33. Stator Deviation Angle (95% N)

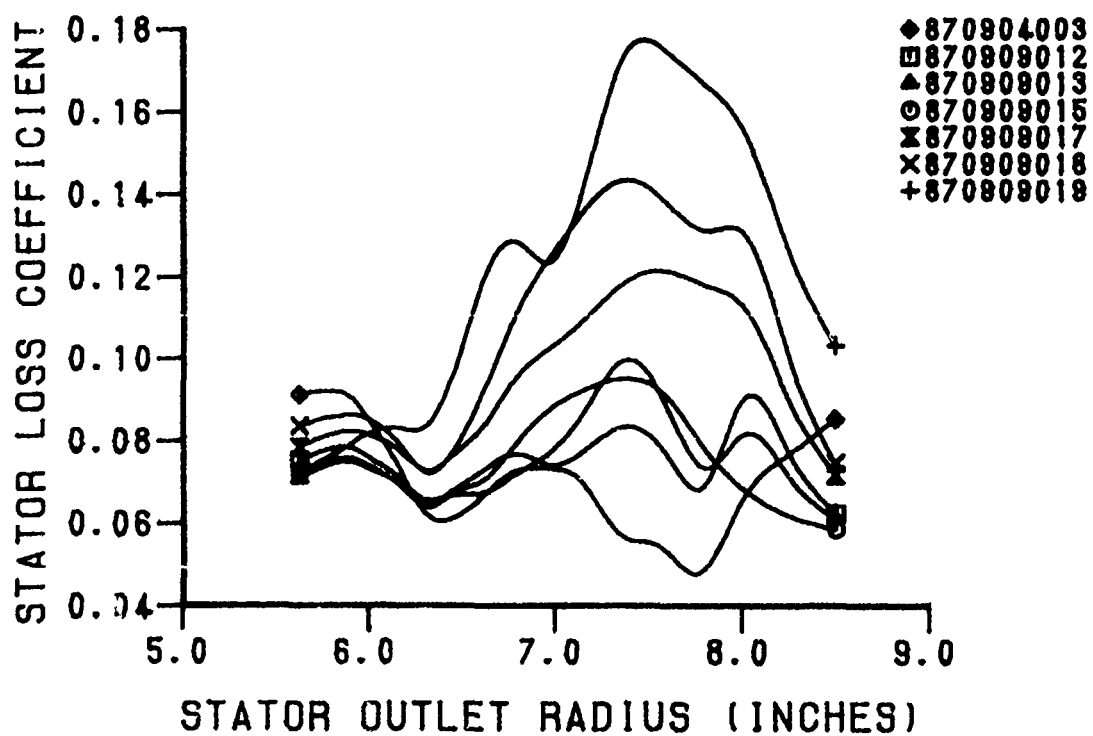
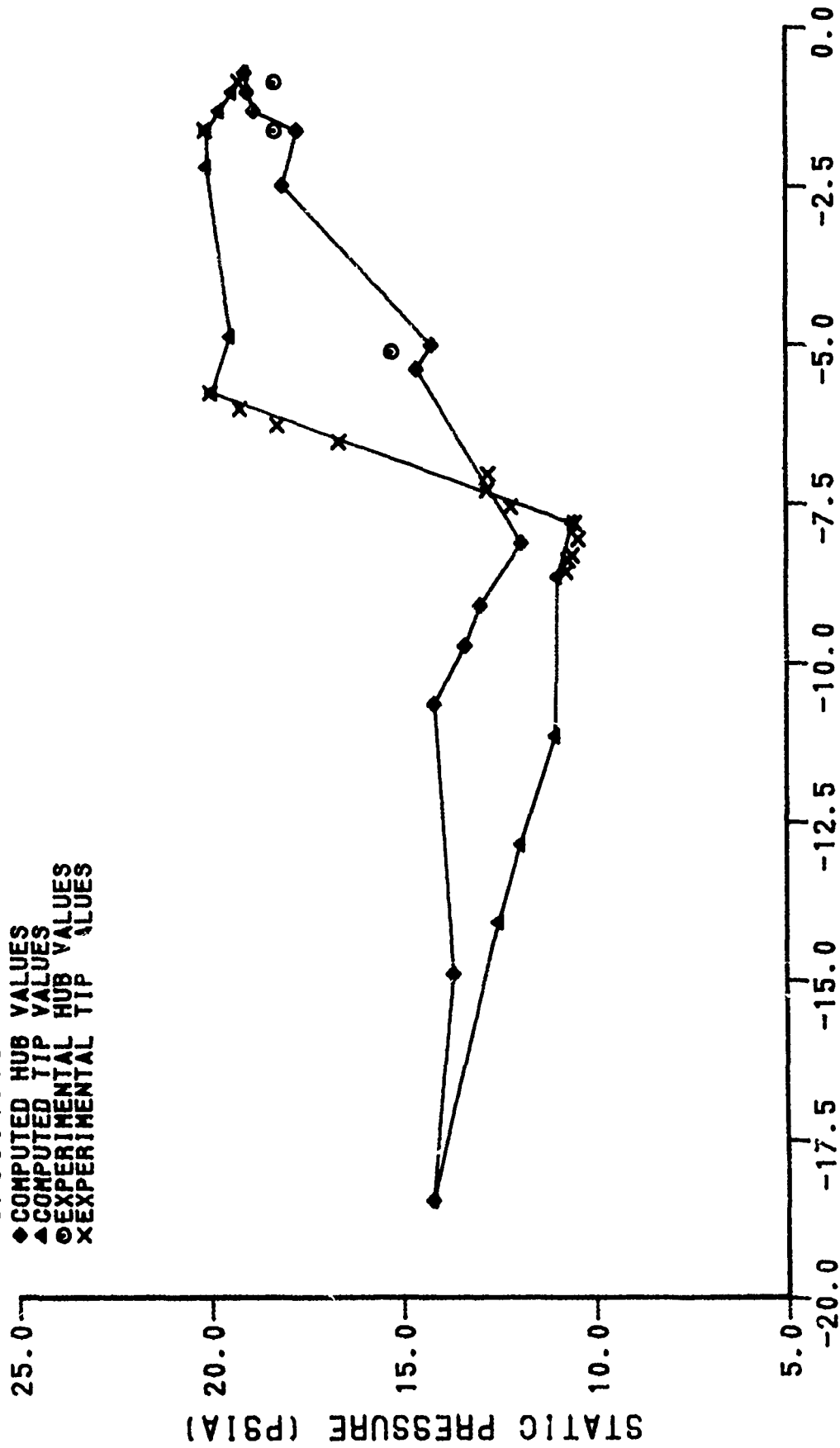


Figure 34. Stator Loss Coefficient (95% N)

870904003

◆ COMPUTED HUB VALUES
 ▲ COMPUTED TIP VALUES
 ○ EXPERIMENTAL HUB VALUES
 x EXPERIMENTAL TIP VALUES



AXIAL COORDINATE (INCHES)

Figure 35. Static Pressure Distribution (870904003)

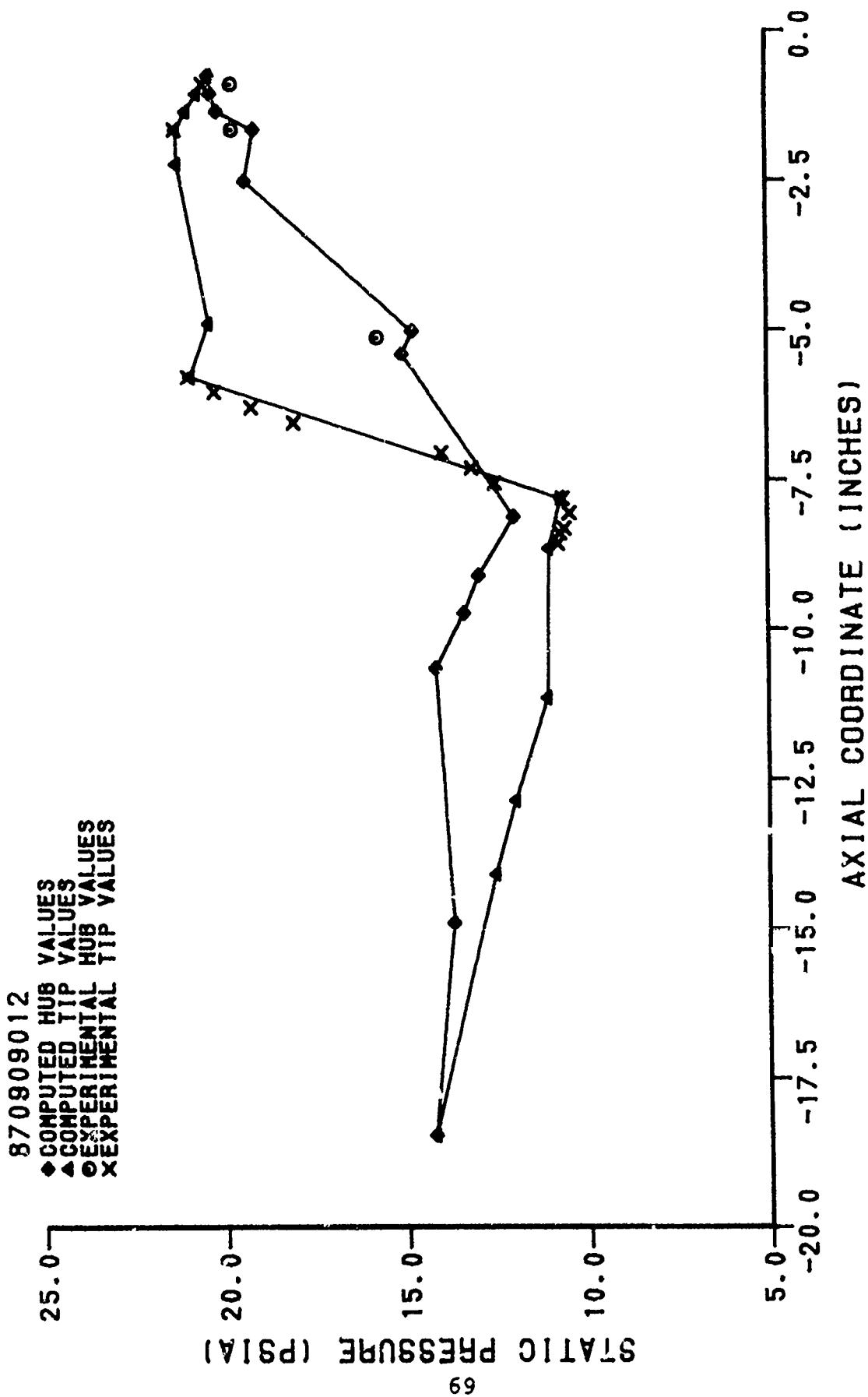


Figure 36. Static Pressure Distribution (870909012)

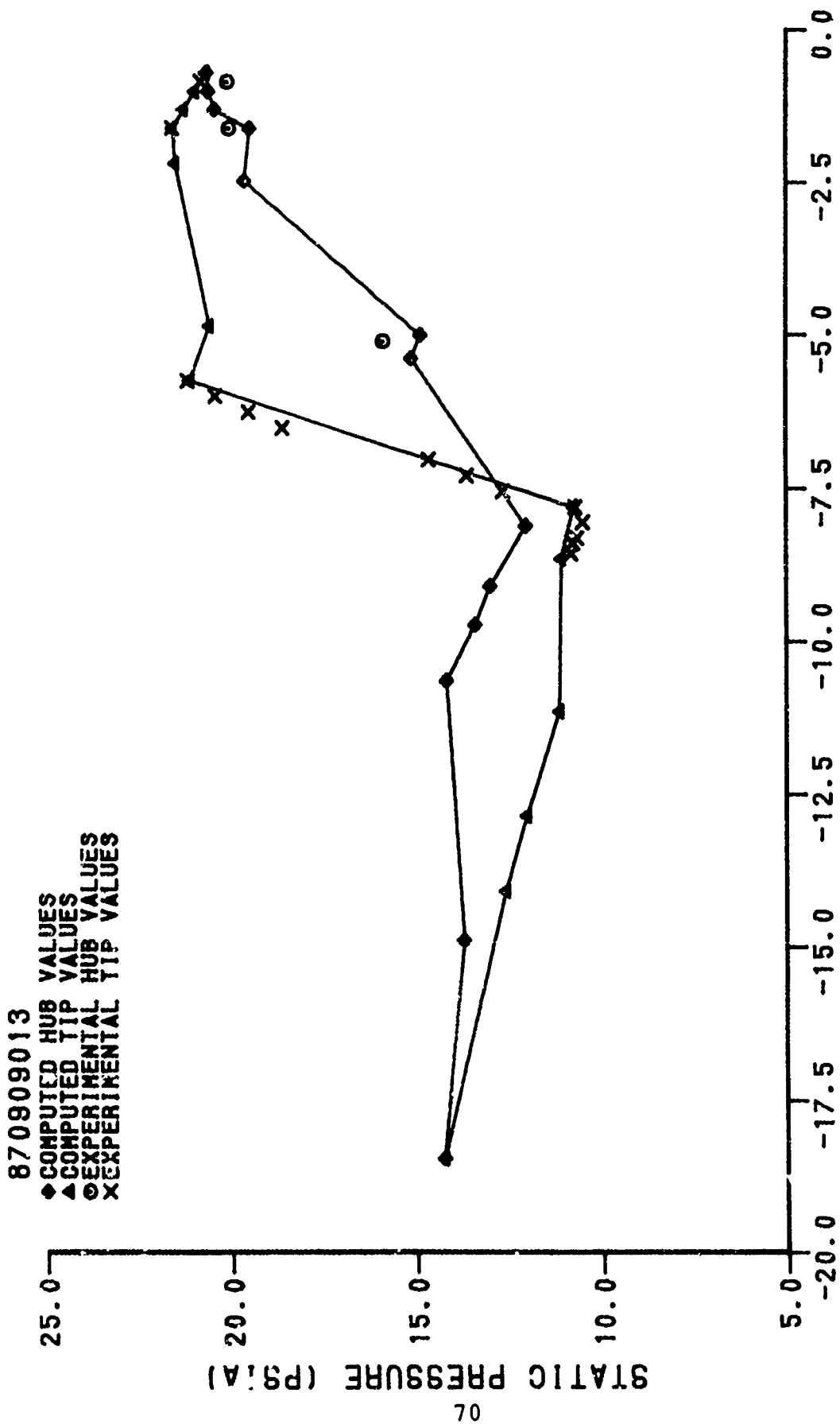
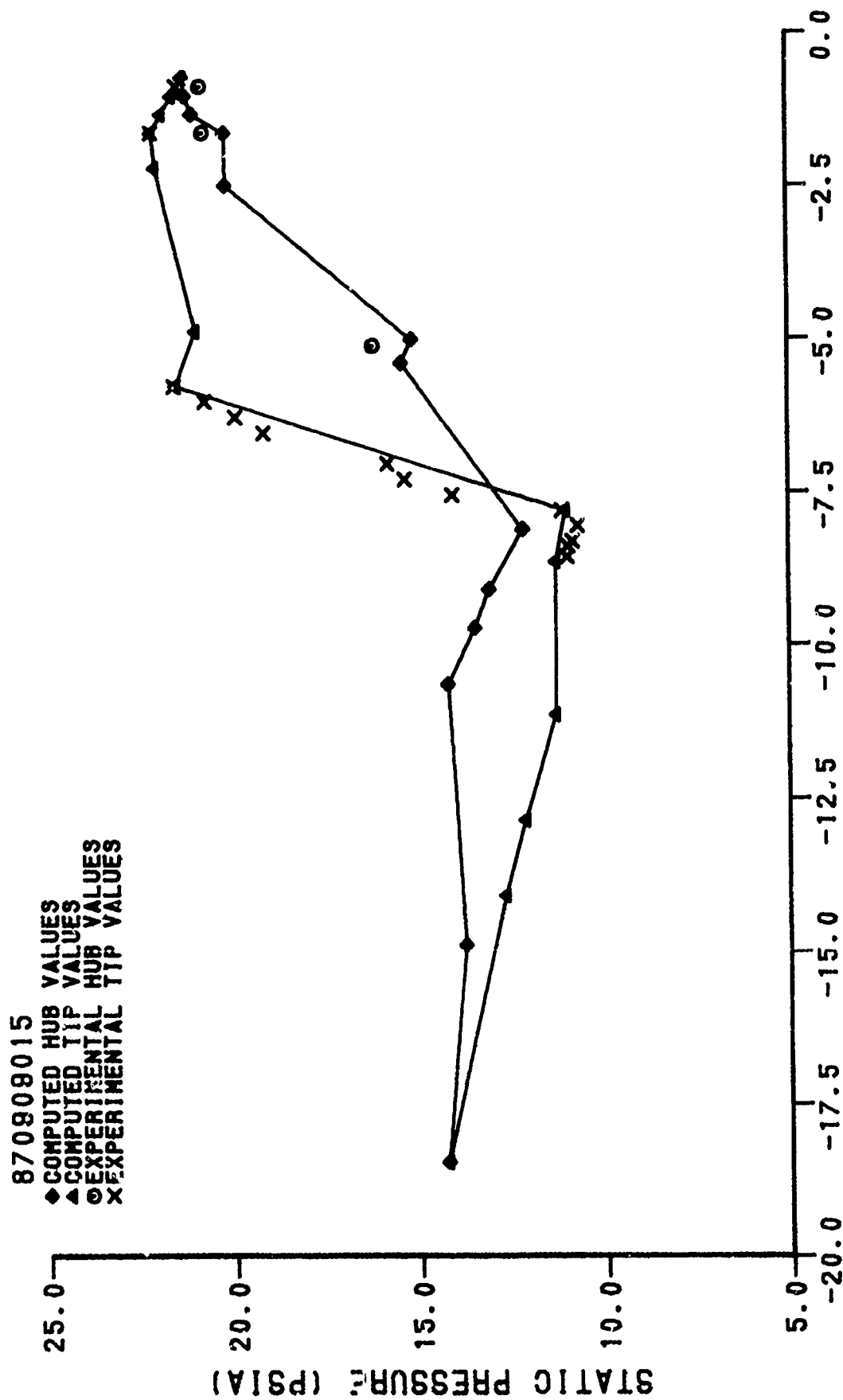


Figure 37. Static Pressure Distribution (870909013)



AXIAL COORDINATE (INCHES)

Figure 38. Static Pressure Distribution (870909015)

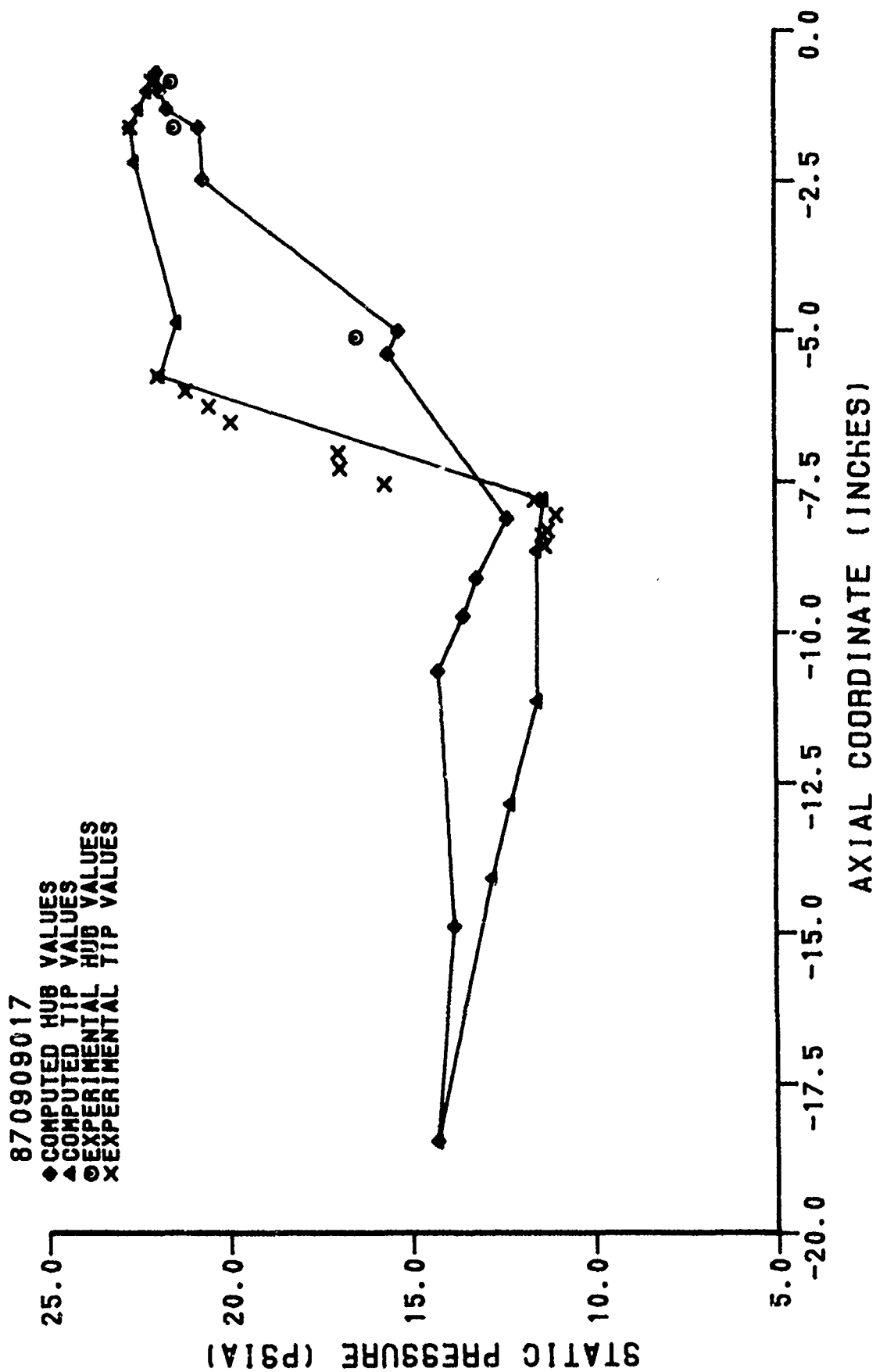


Figure 39. Static Pressure Distribution (870909017)

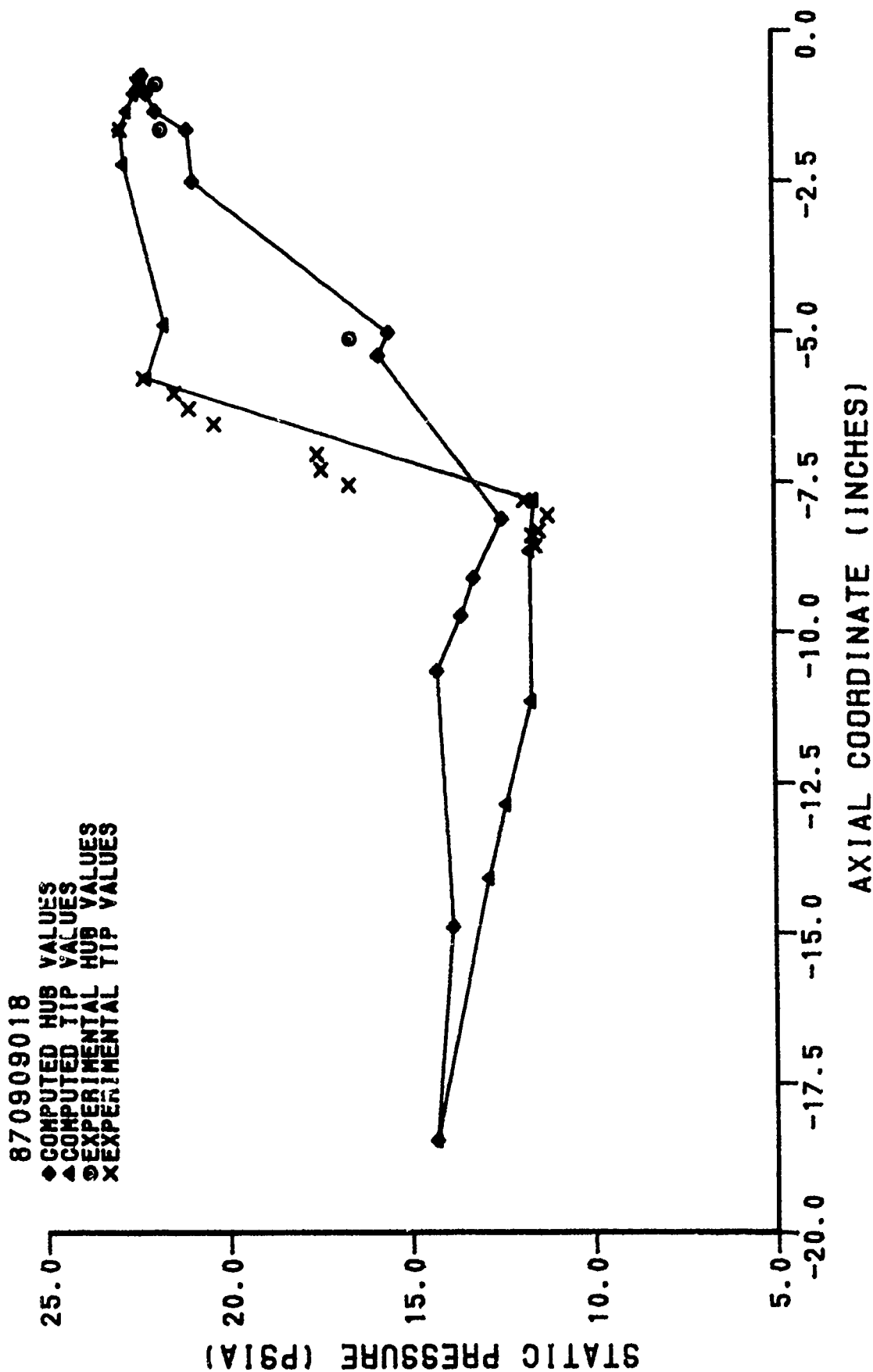


Figure 40. Static Pressure Distribution (870909018)

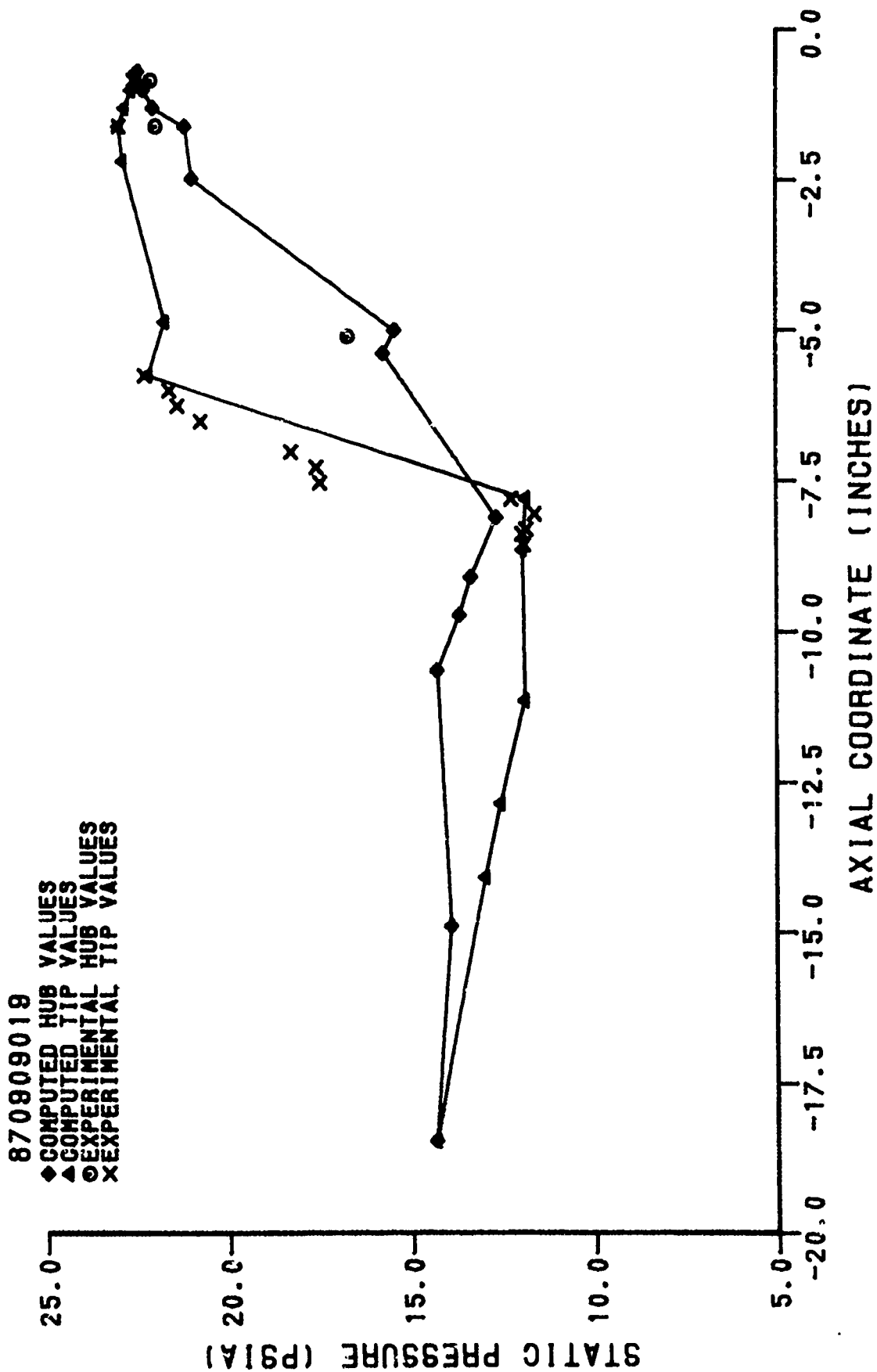


Figure 41. Static Pressure Distribution (870909019)

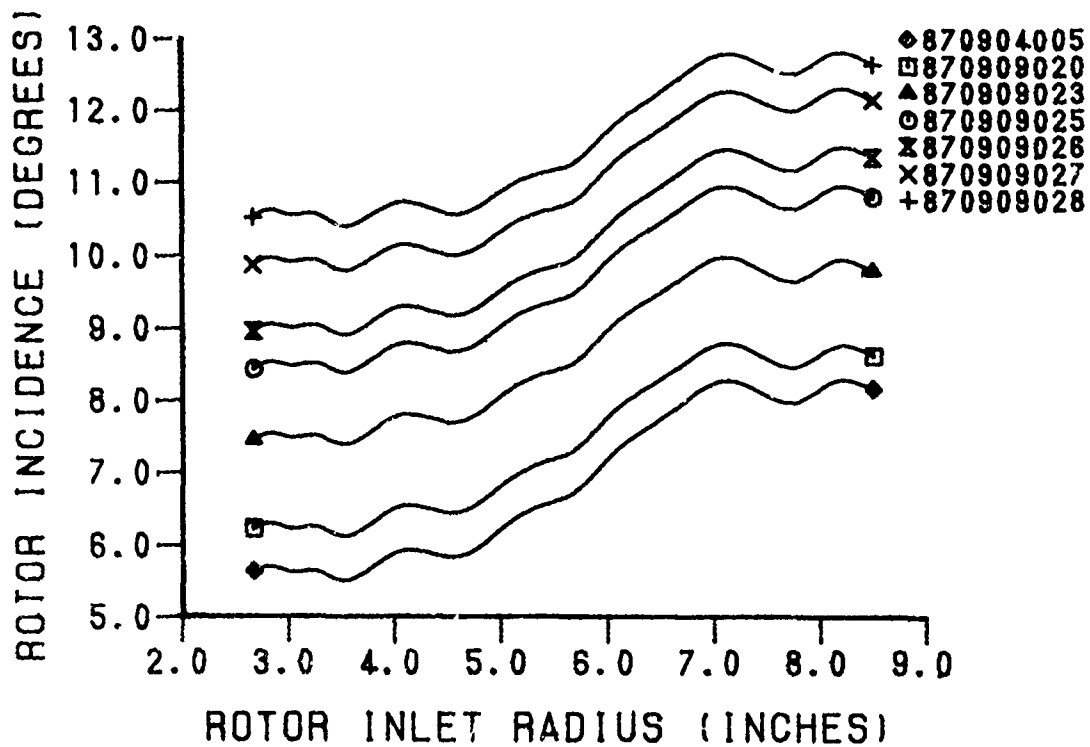


Figure 42. Rotor Incidence Angle (90% N)

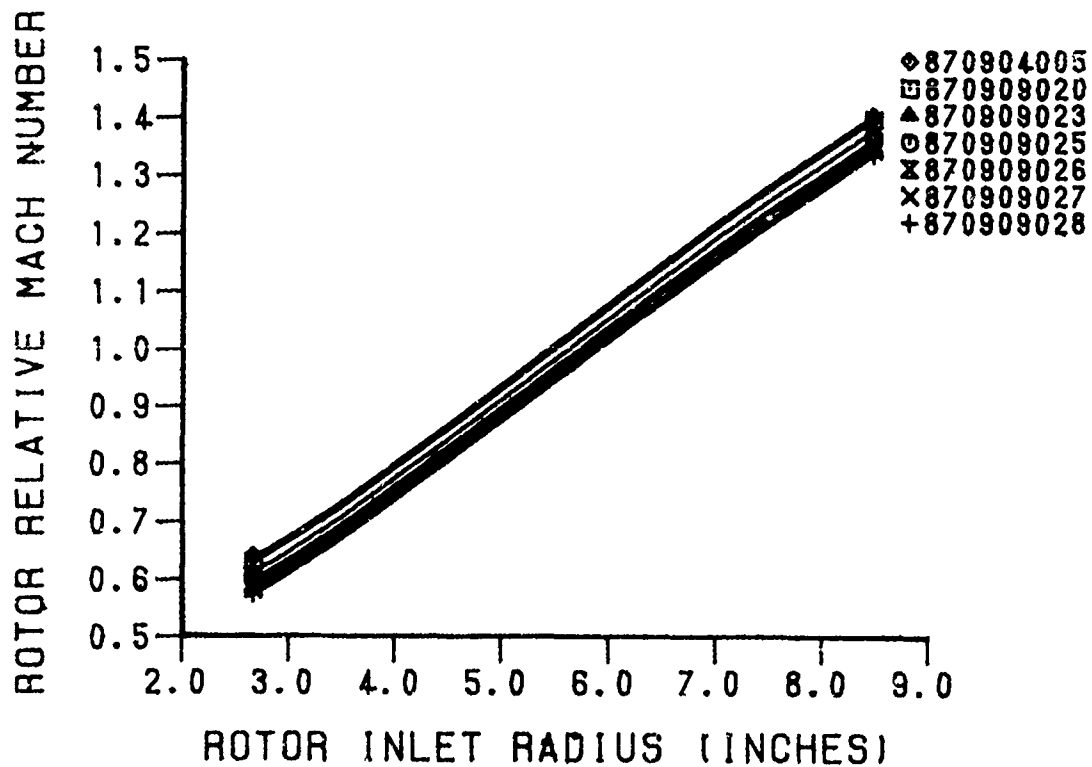


Figure 43. Rotor Relative Inlet Mach Number (90% N)

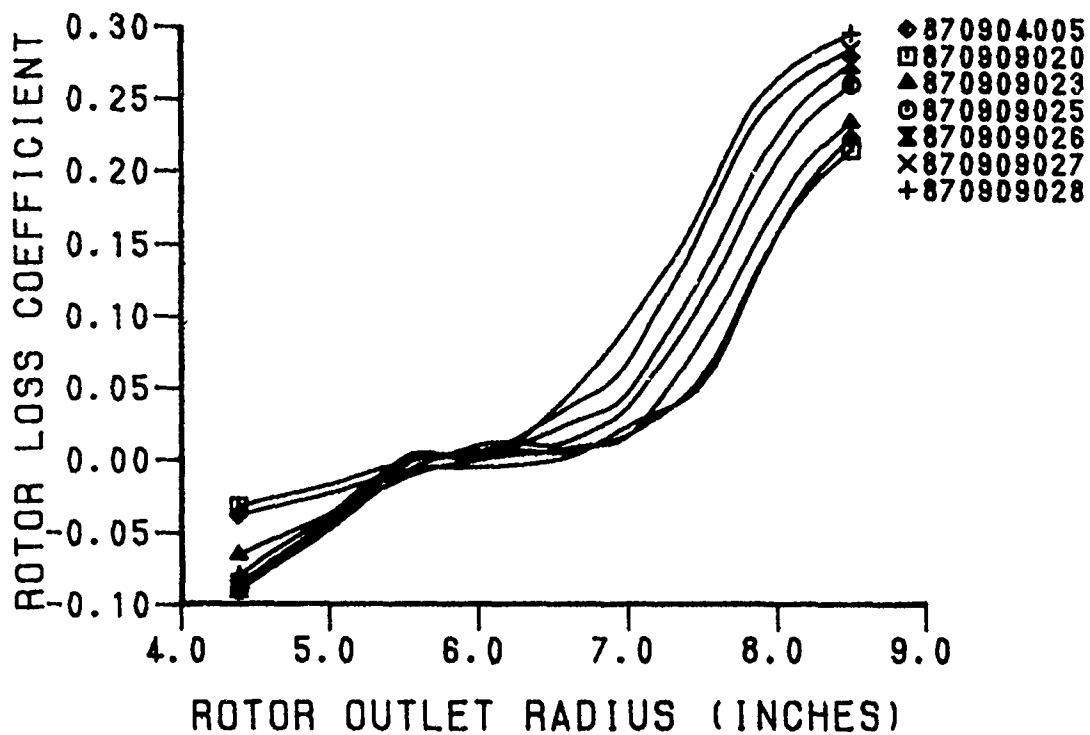


Figure 44. Rotor Loss Coefficient (90% N)

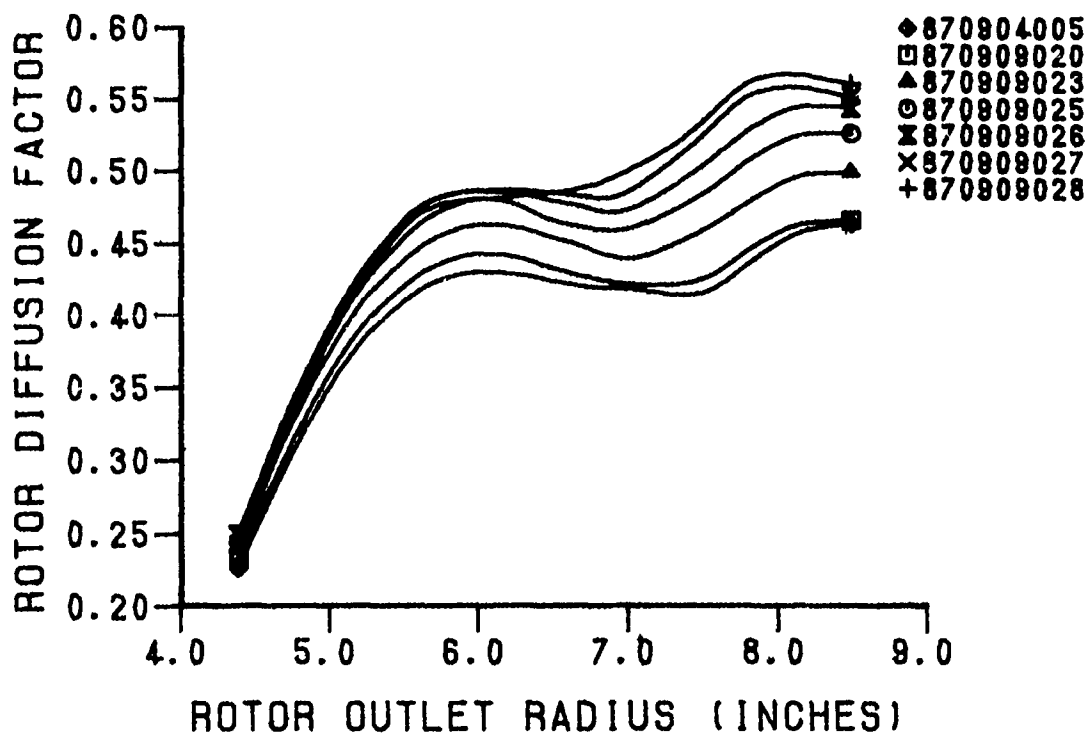


Figure 45. Rotor Diffusion Factor (90% N)

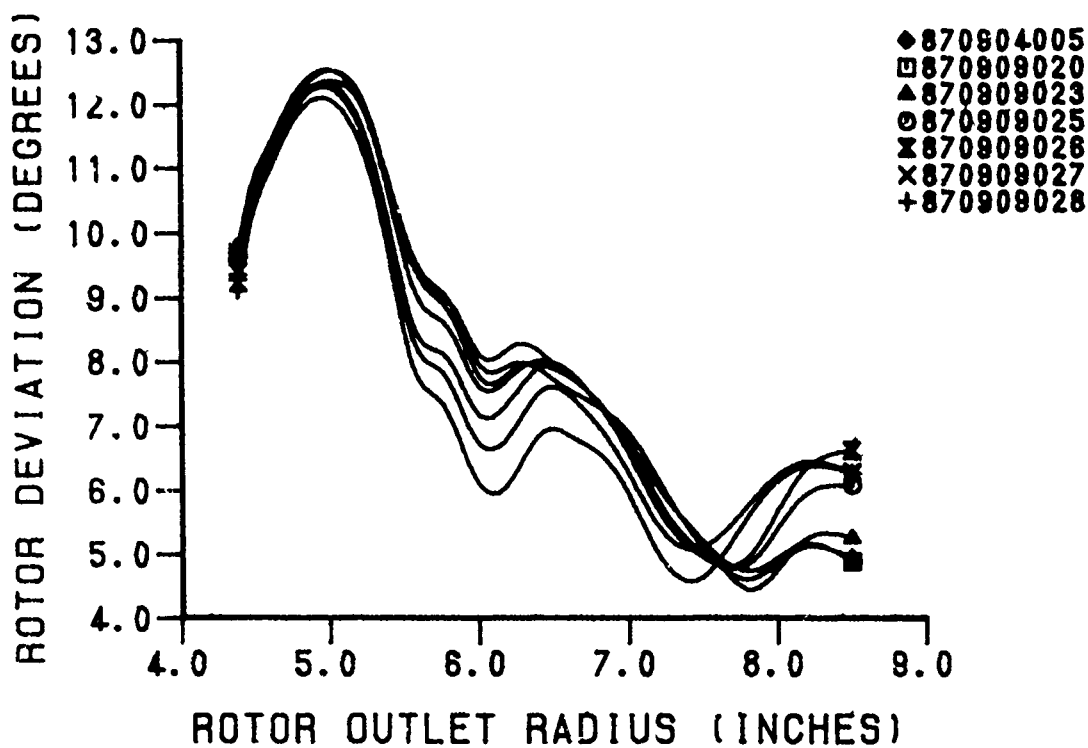


Figure 46. Rotor Deviation Angle (90% N)

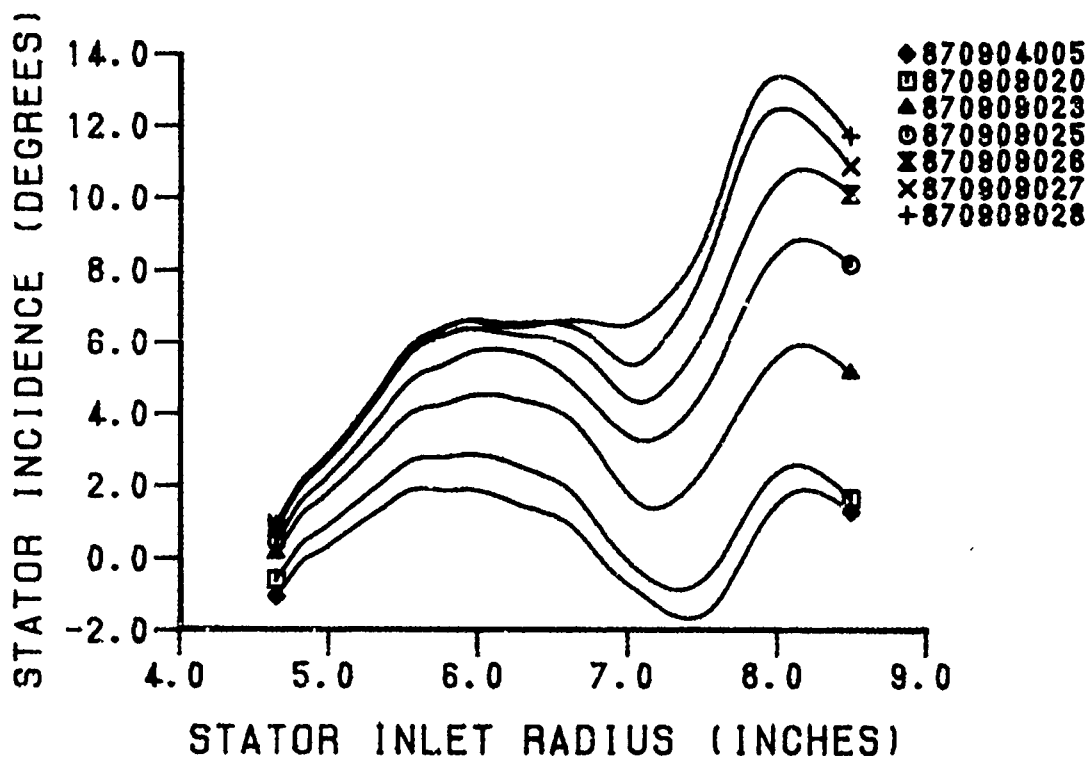


Figure 47. Stator Incidence Angle (90% N)

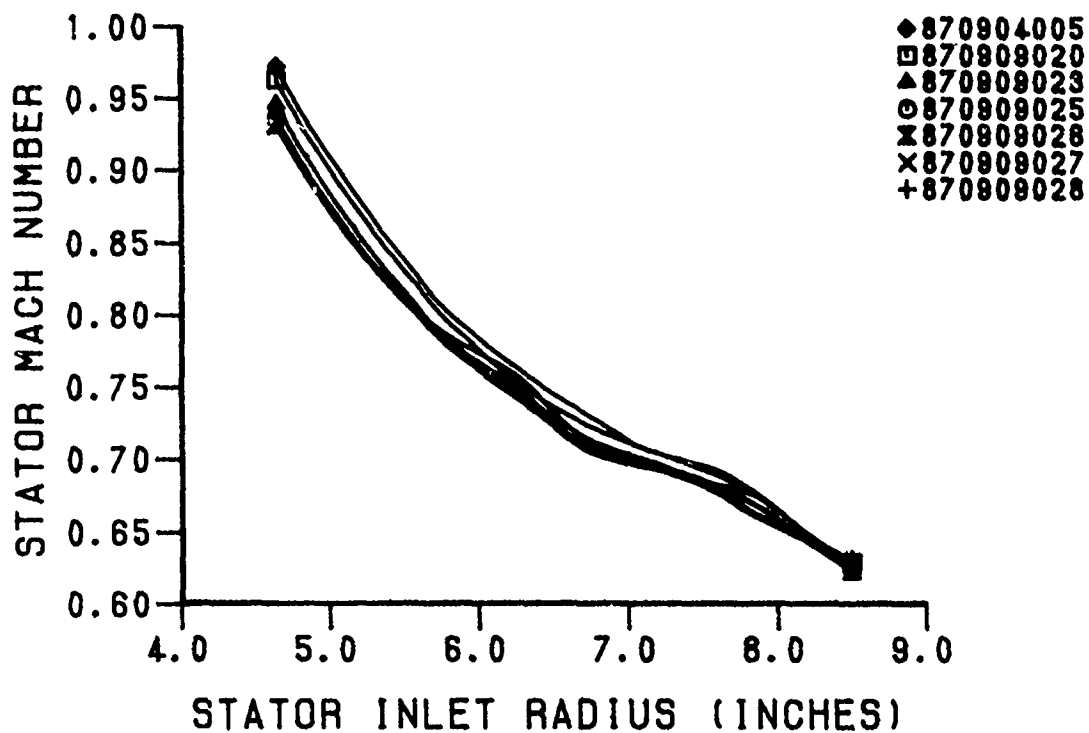


Figure 48. Stator Absolute Inlet Mach Number (90% N)

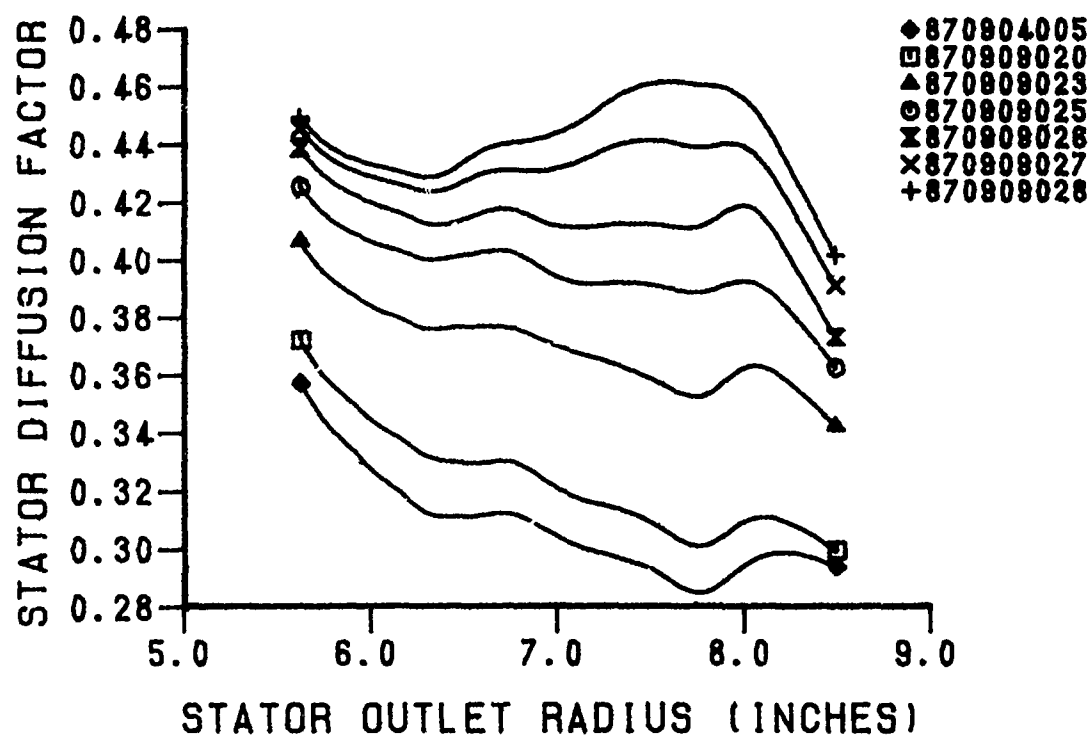


Figure 49. Stator Diffusion Factor (90% N)

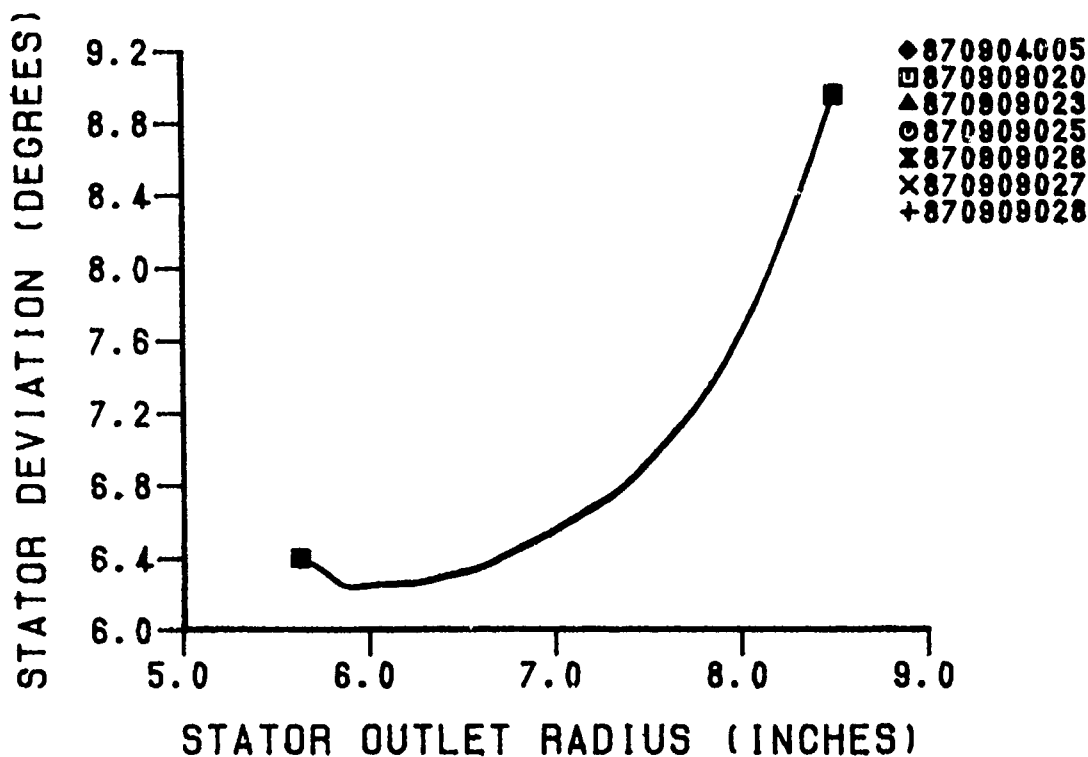


Figure 50. Stator Deviation Angle (90% N)

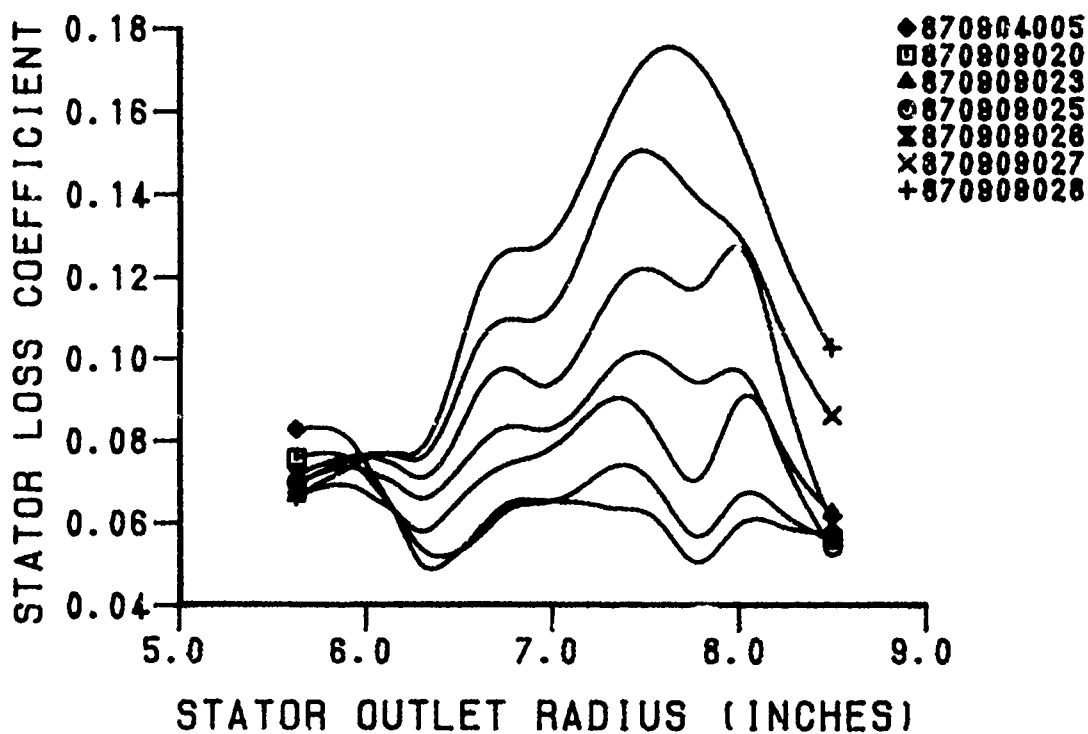


Figure 51. Stator Loss Coefficient (90% N)

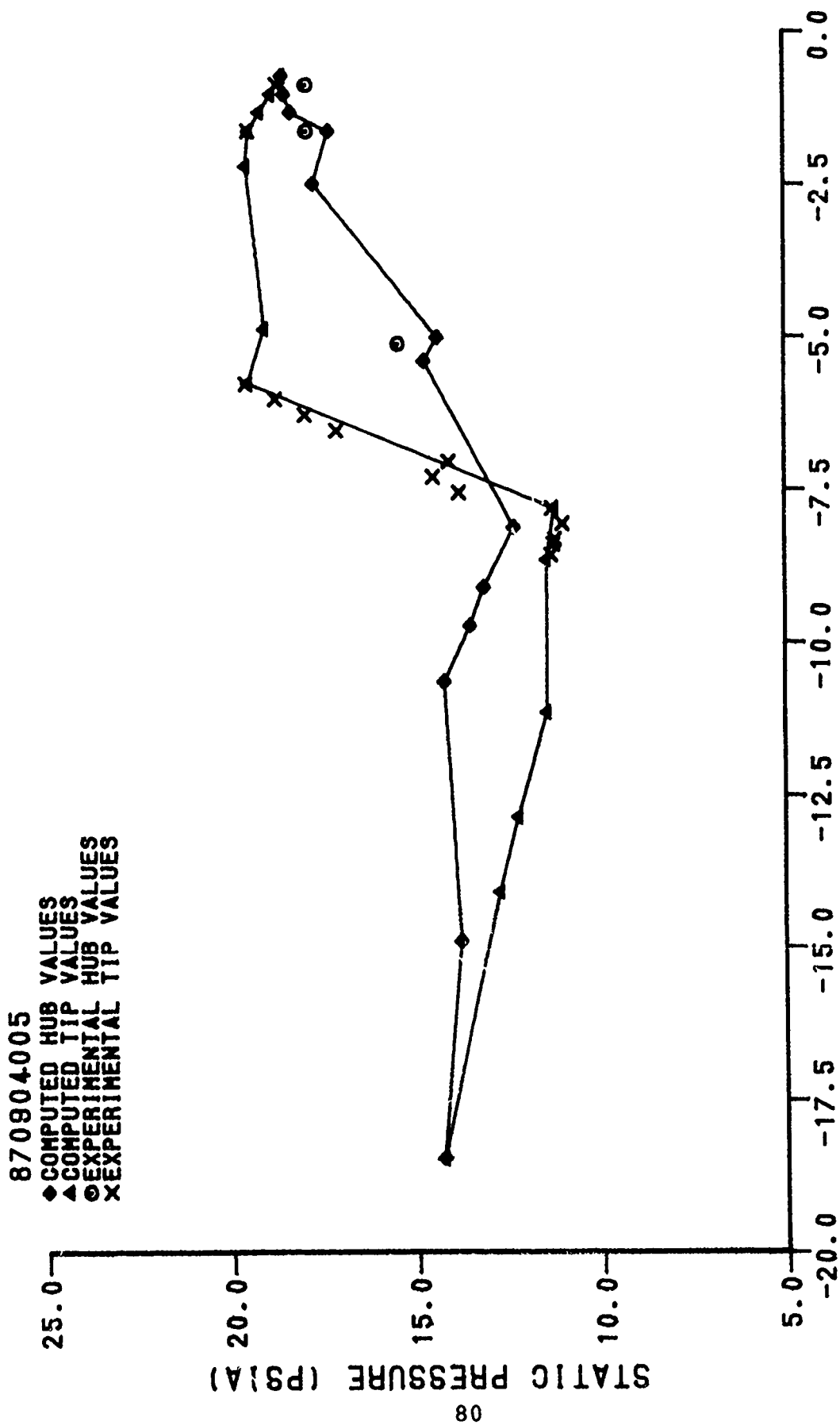


Figure 52. Static Pressure Distribution (870904005)

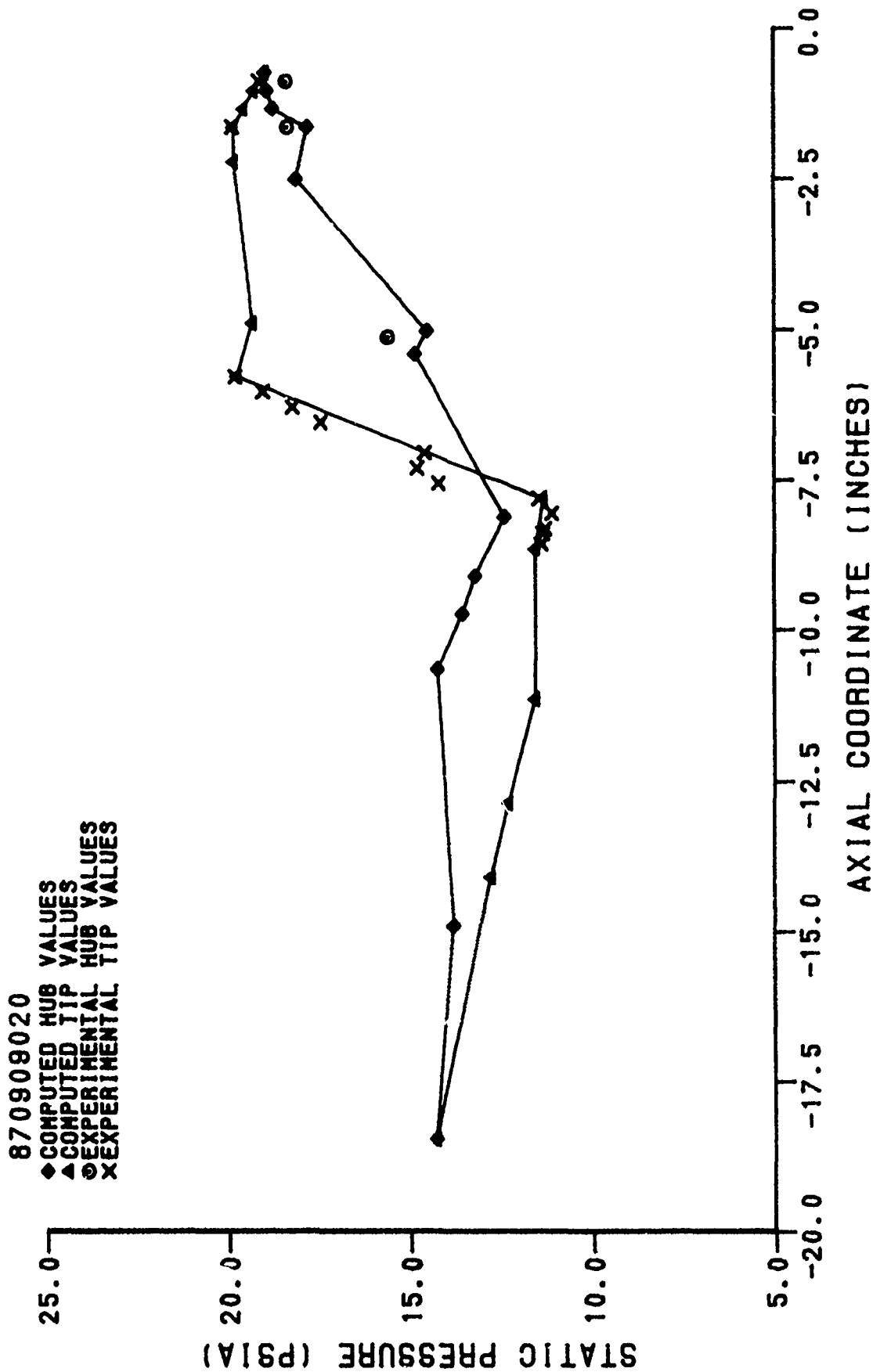


Figure 53. Static Pressure Distribution (870909020)

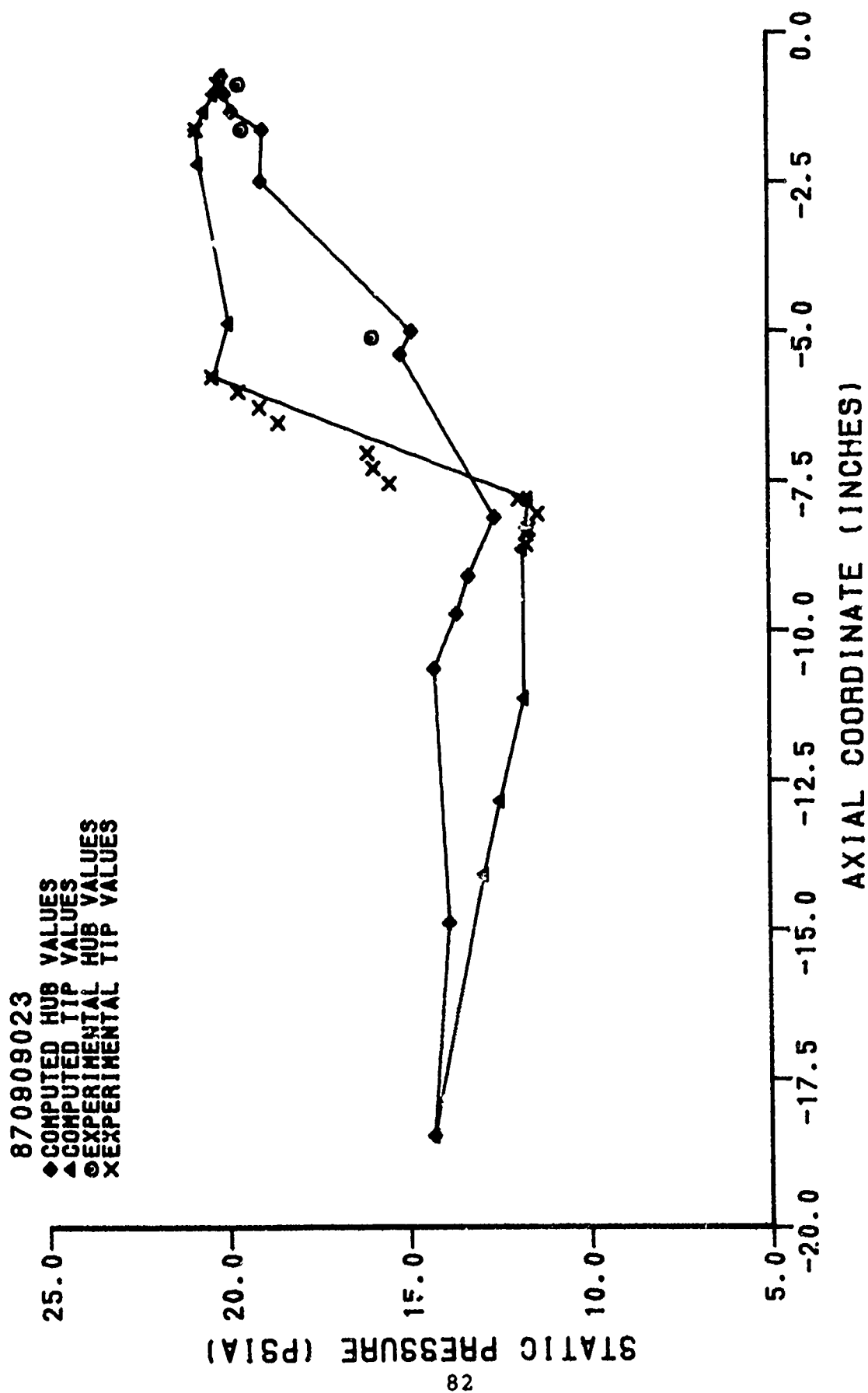


Figure 54. Static Pressure Distribution (870909023)

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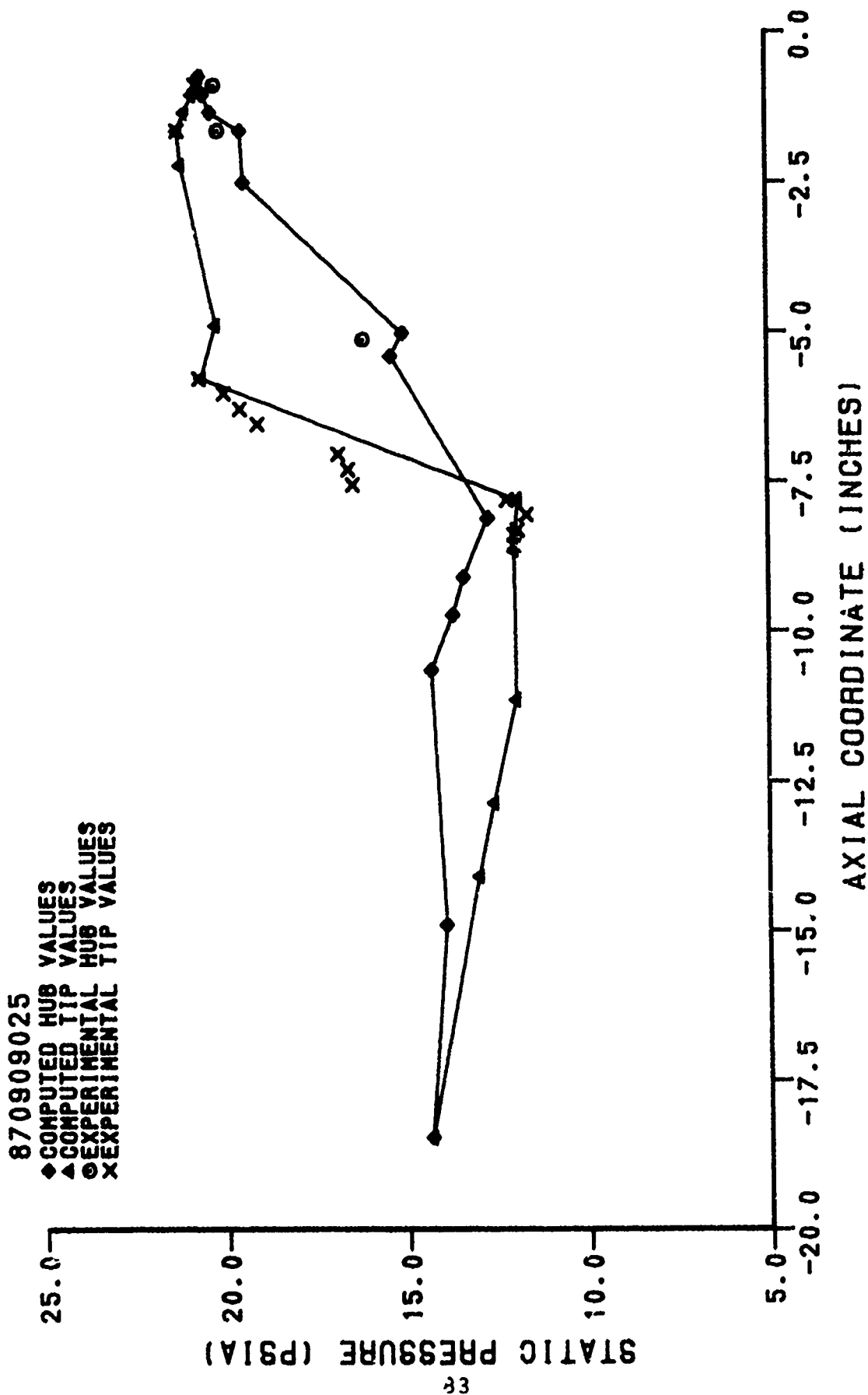


Figure 55. Static Pressure Distribution (870909025)

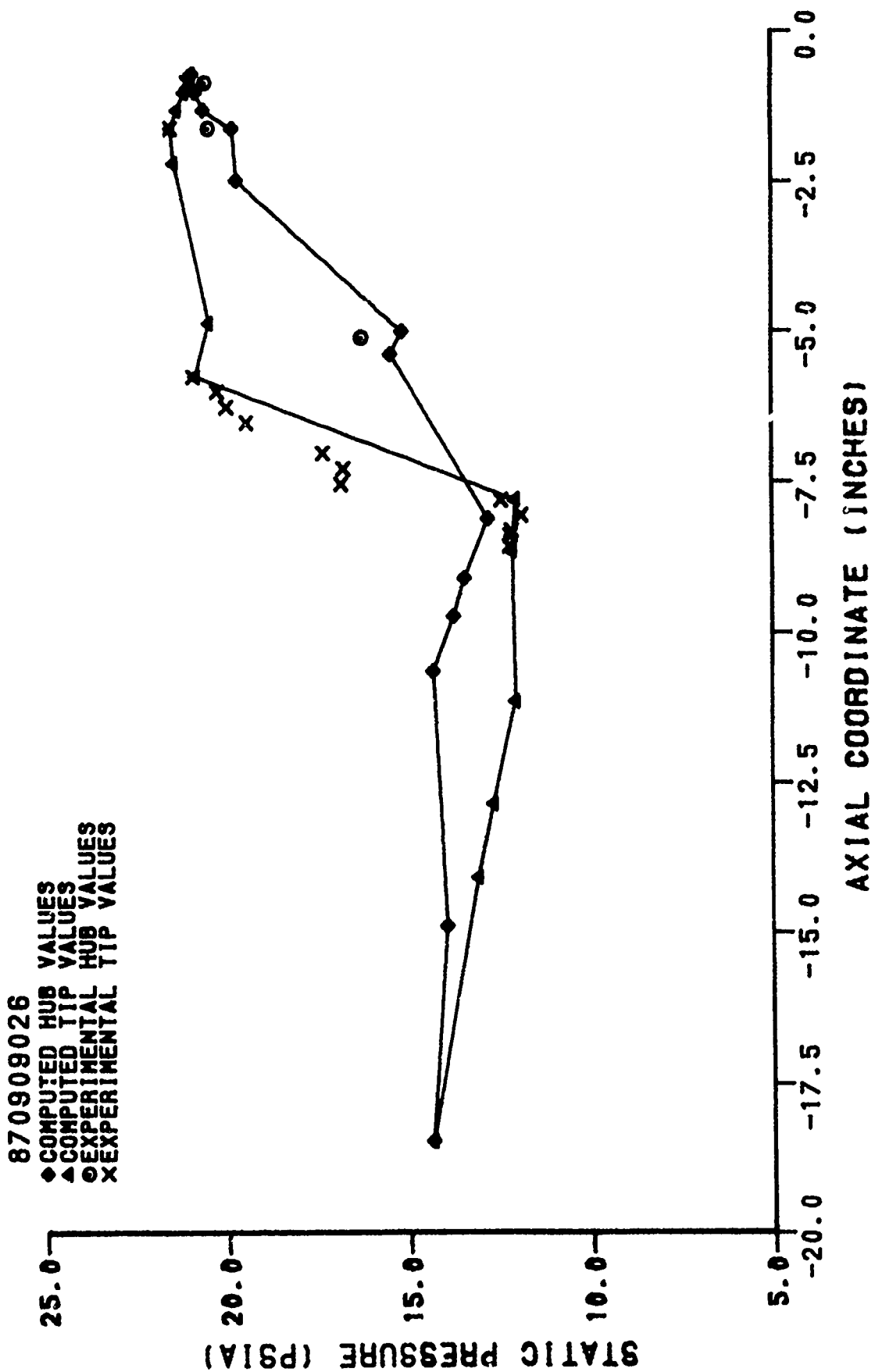


Figure 56. Static Pressure Distribution (870909026)

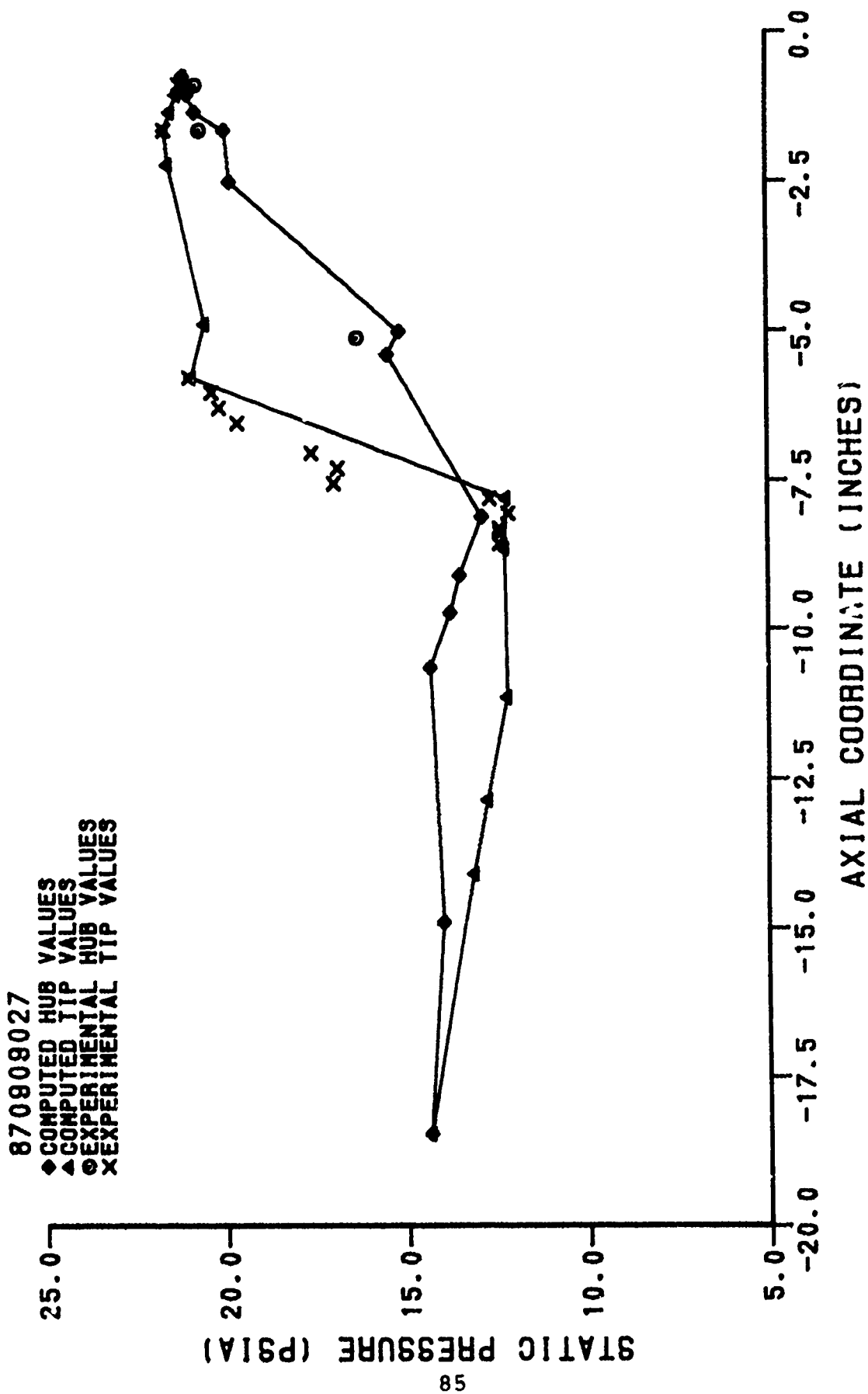


Figure 57. Static Pressure Distribution (870909027)

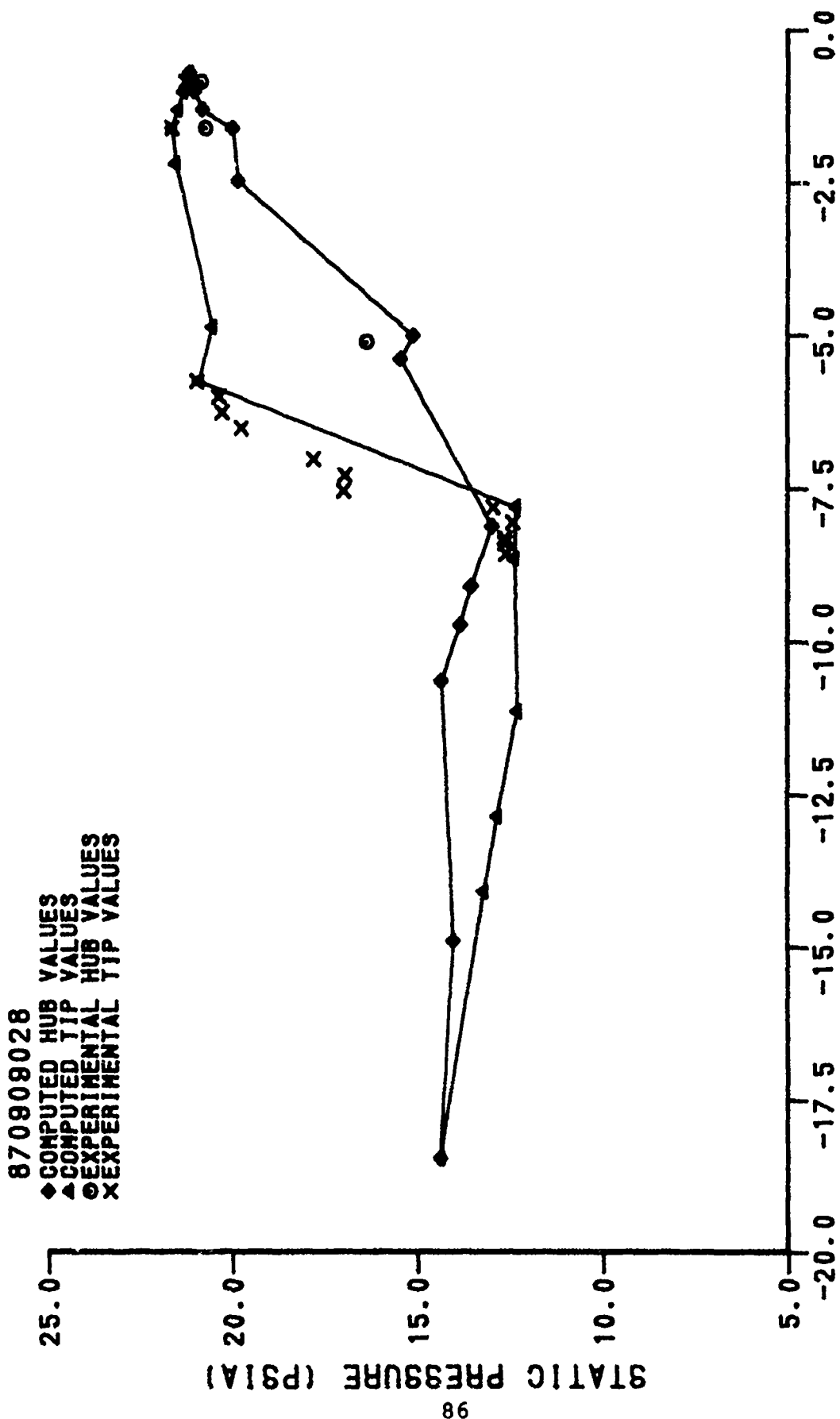


Figure 58. Static Pressure Distribution (870909028)

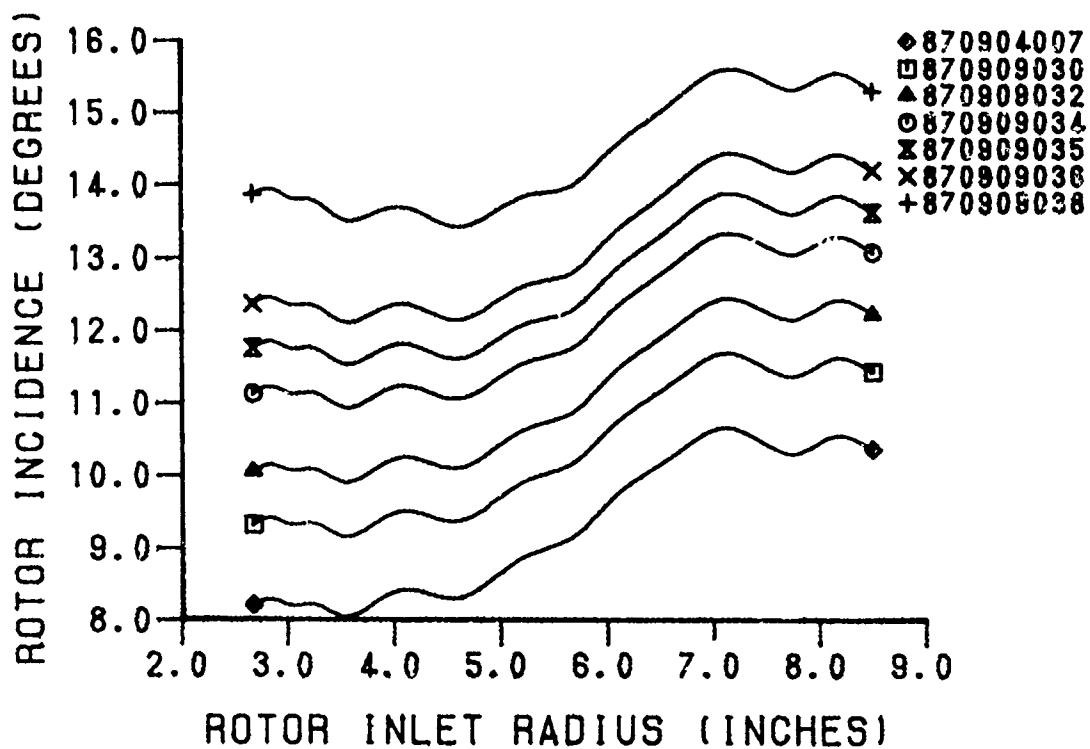


Figure 59. Rotor Incidence Angle (80% N)

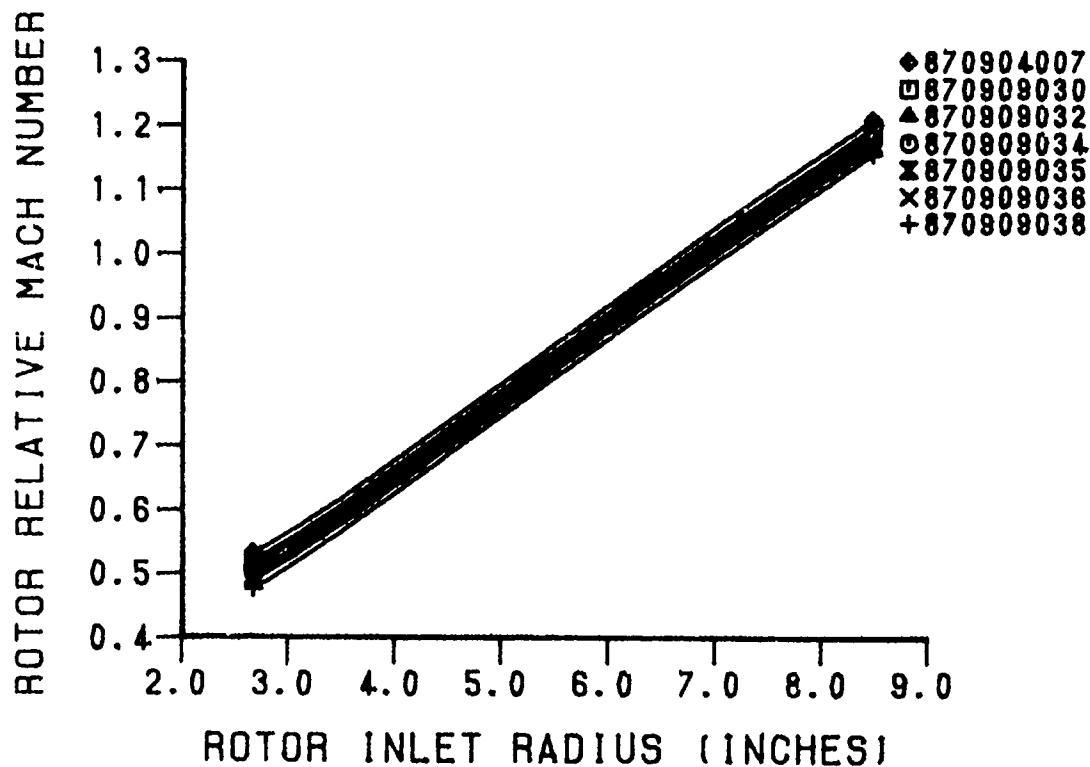


Figure 60. Rotor Relative Inlet Mach Number (80% N)

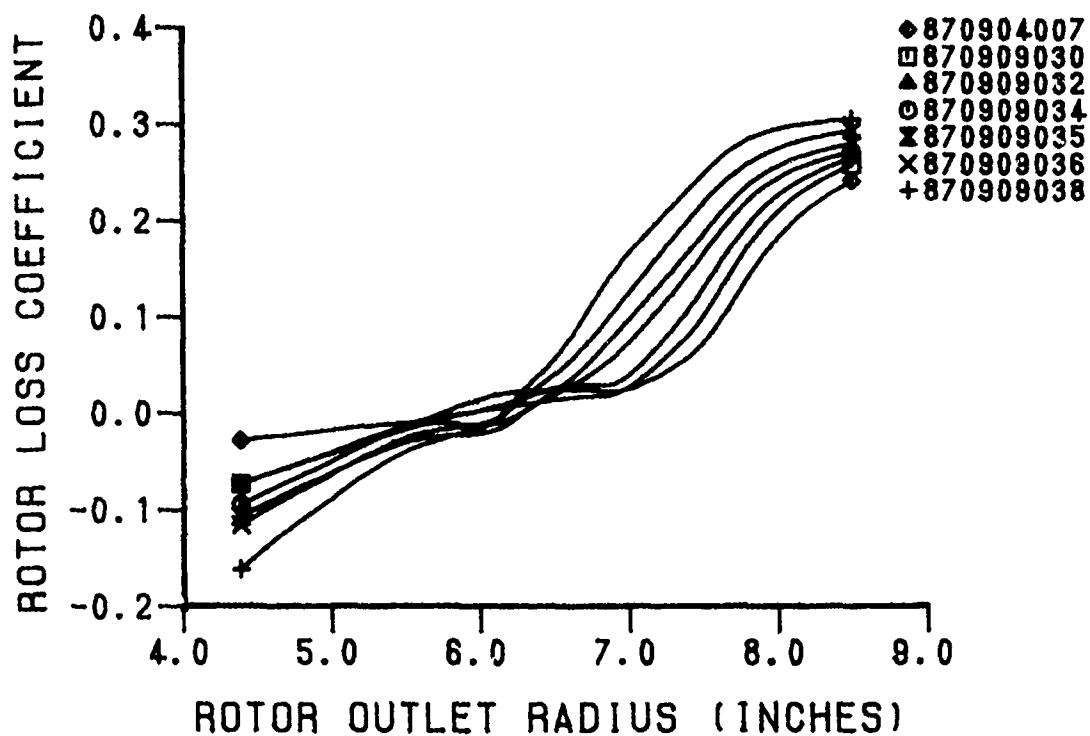


Figure 61. Rotor Loss Coefficient (80% N)

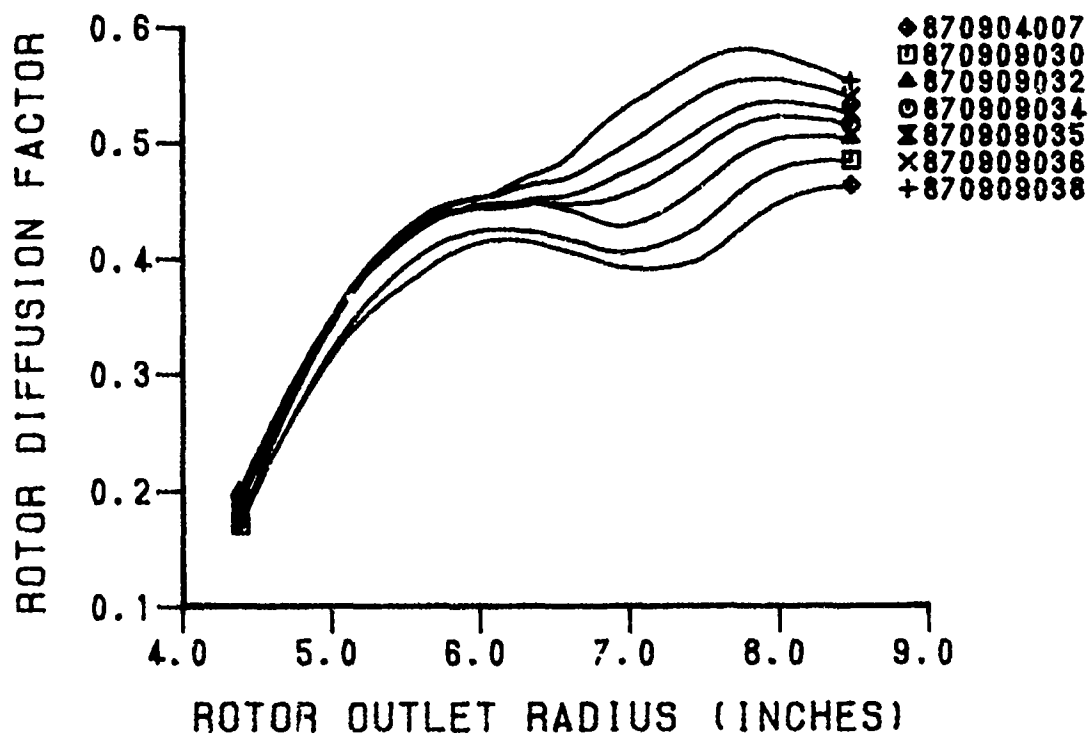


Figure 62. Rotor Diffusion Factor (80% N)

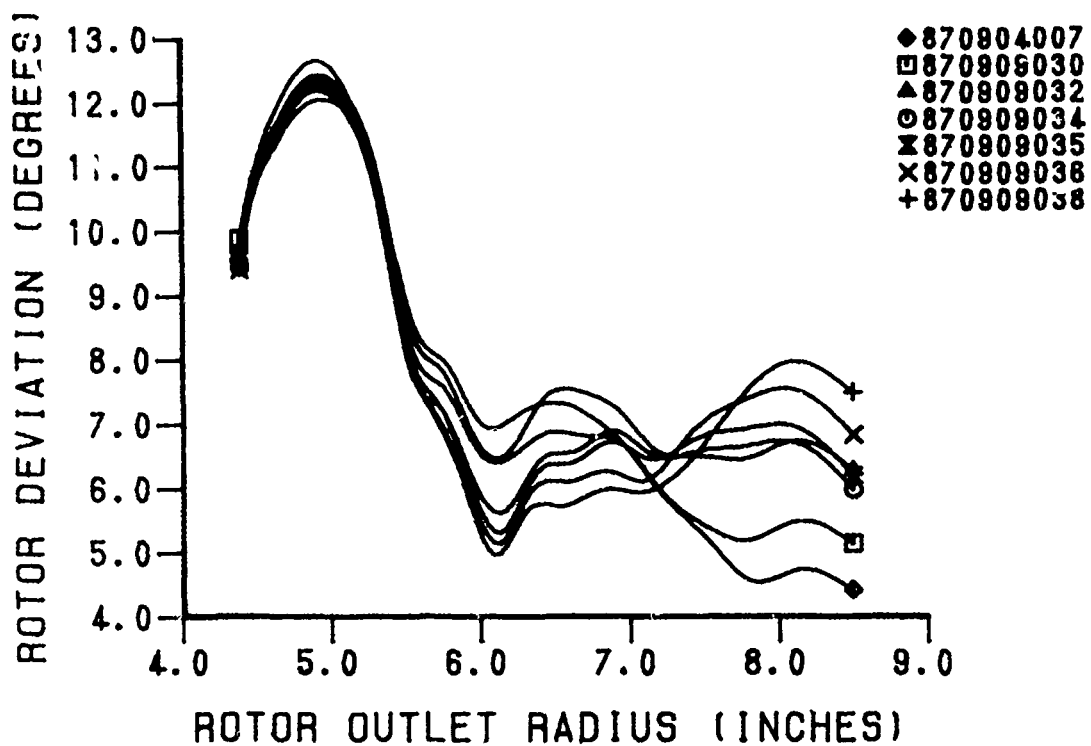


Figure 63. Rotor Deviation Angle (80% N)

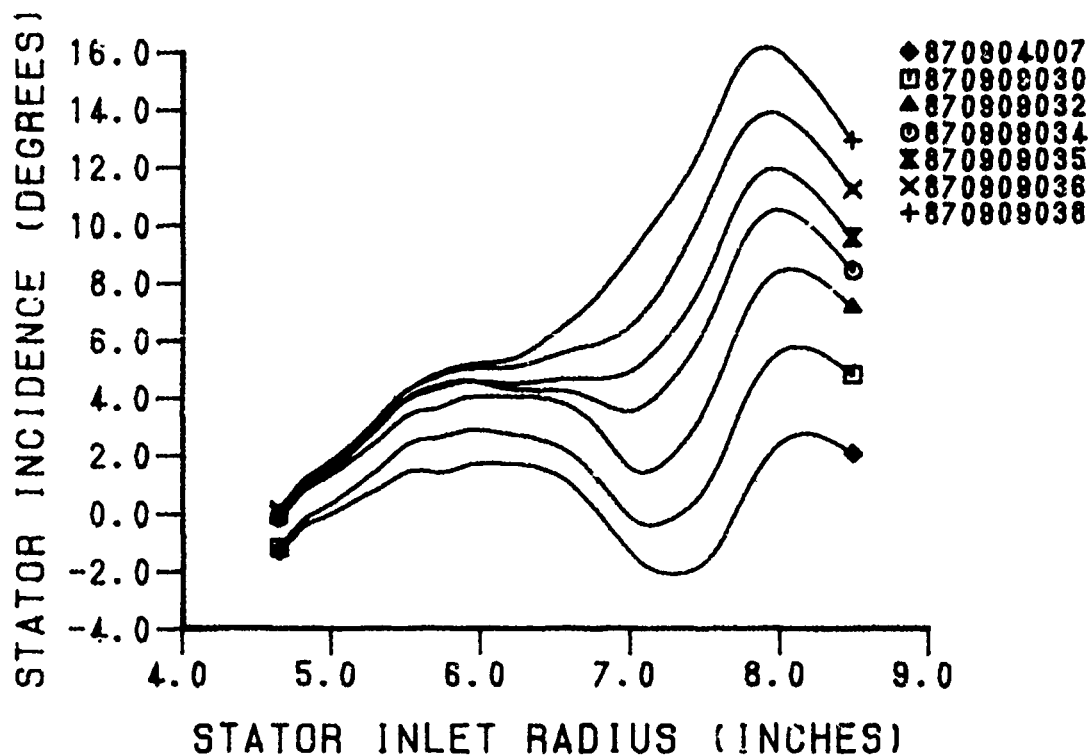


Figure 64. Stator Incidence Angle (80% N)

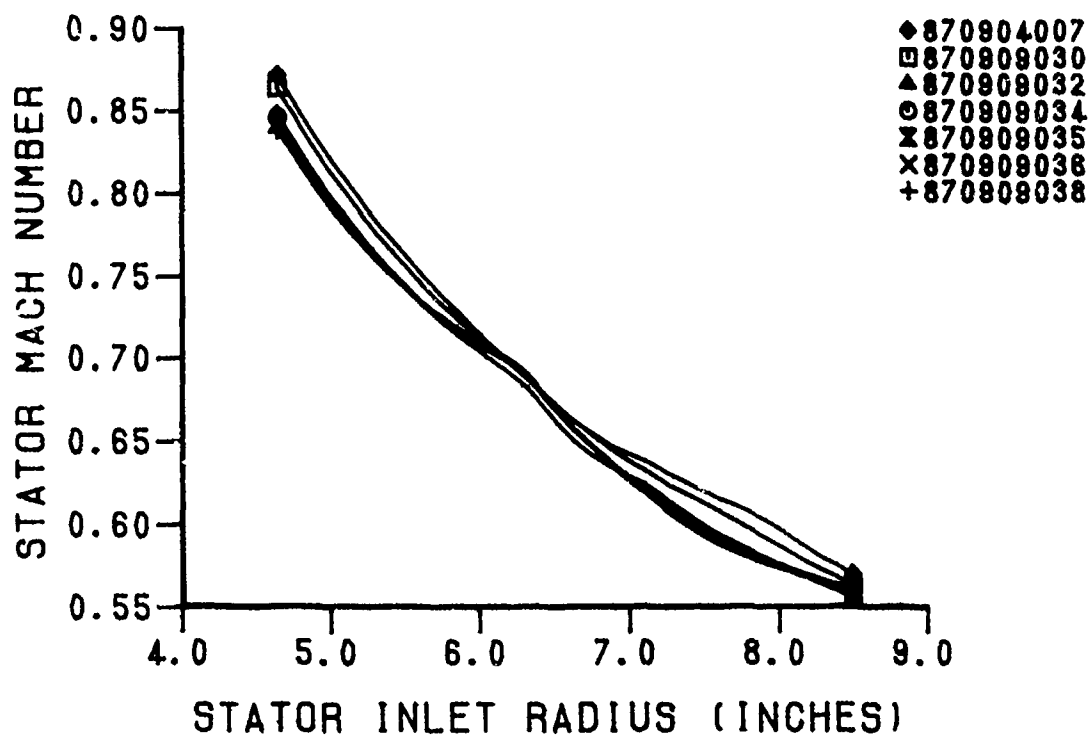


Figure 65. Stator Absolute Inlet Mach Number (80% N)

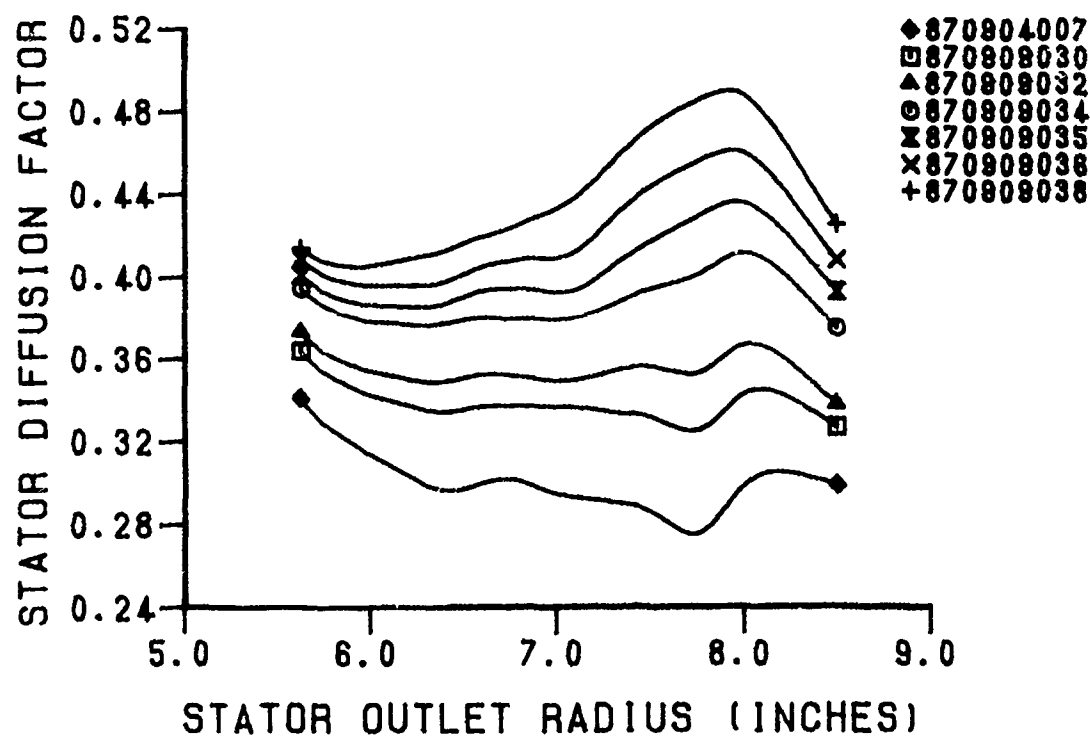


Figure 66. Stator Diffusion Factor (80% N)

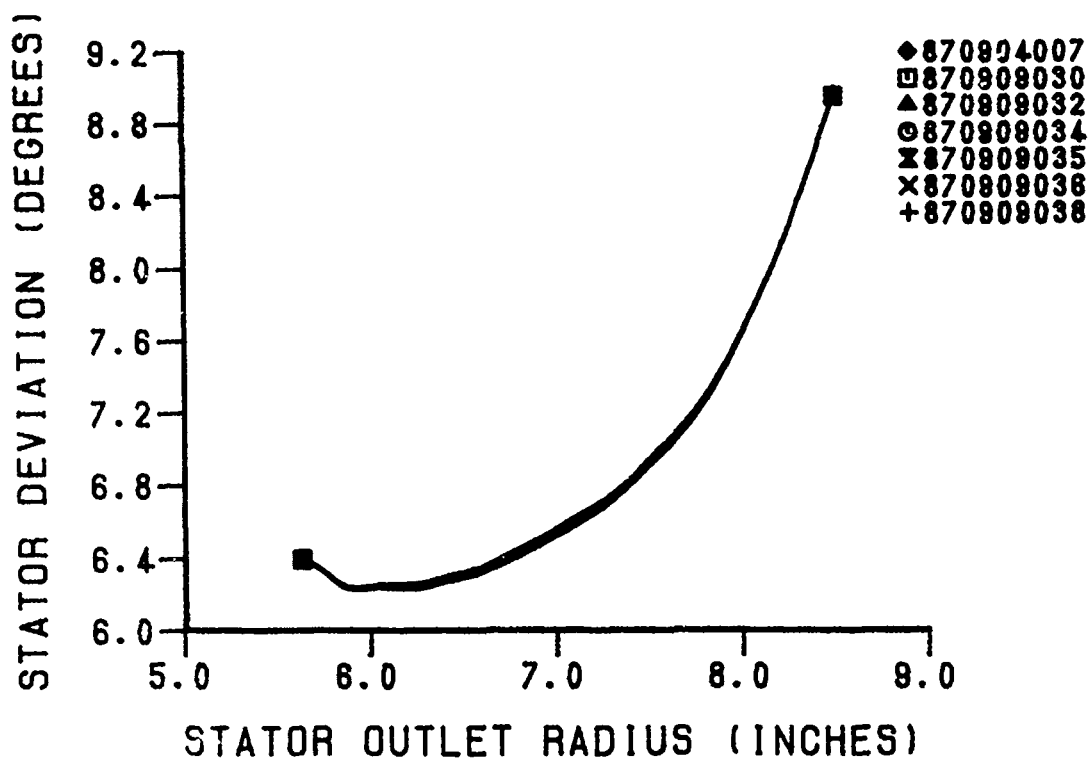


Figure 67. Stator Deviation Angle (80% N)

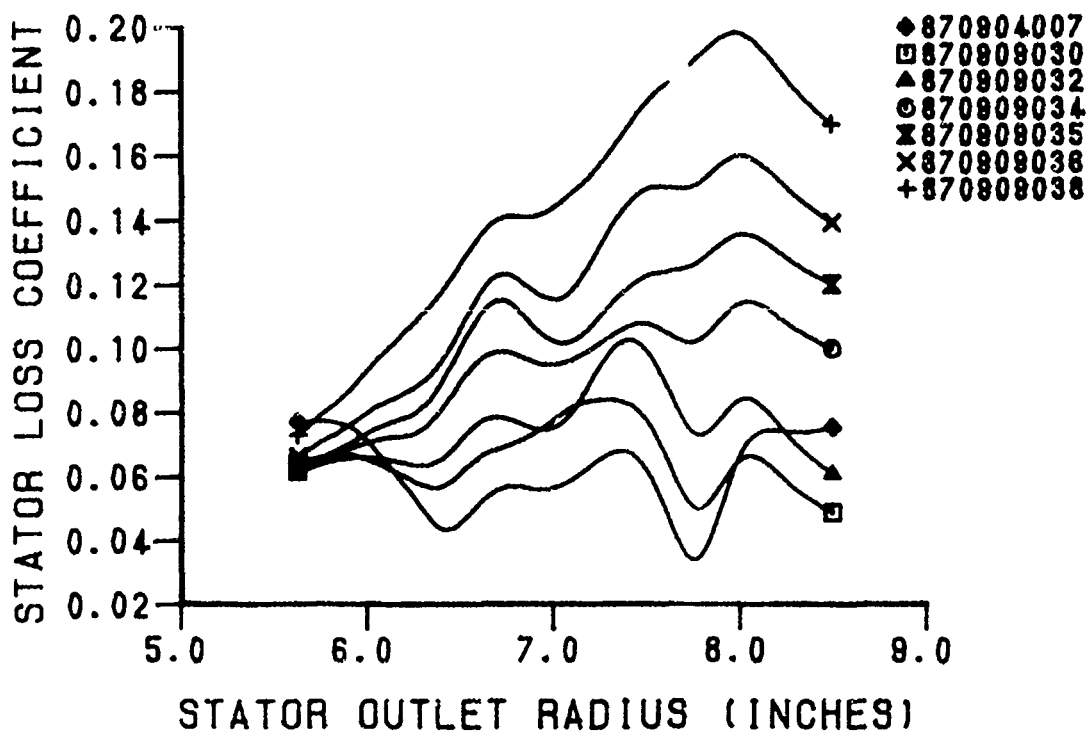
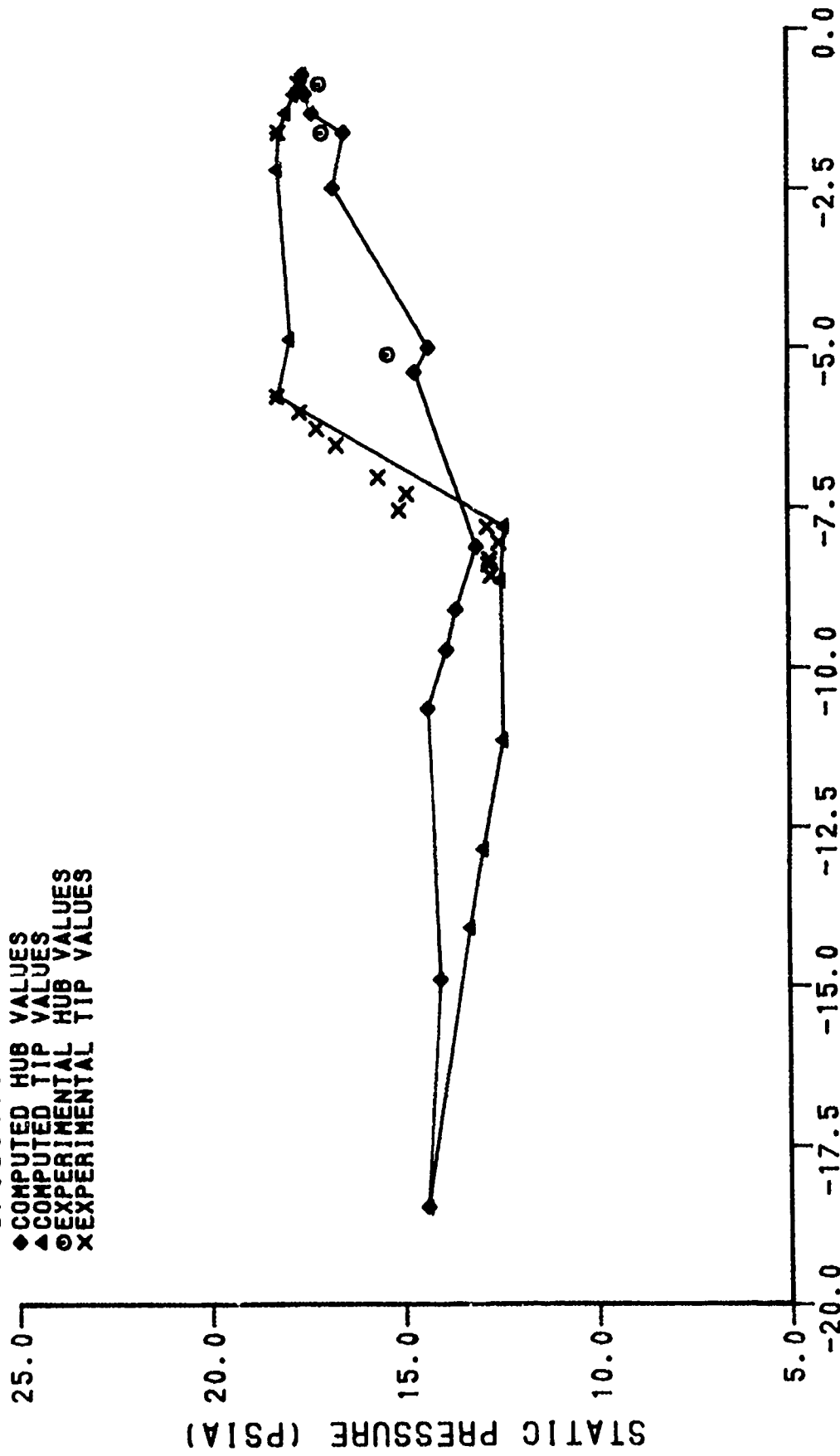


Figure 68. Stator Loss Coefficient (80% N)

870904007

◆ COMPUTED HUB VALUES
 ▲ COMPUTED TIP VALUES
 ○ EXPERIMENTAL HUB VALUES
 x EXPERIMENTAL TIP VALUES



AXIAL COORDINATE (INCHES)

Figure 69. Static Pressure Distribution (870904007)

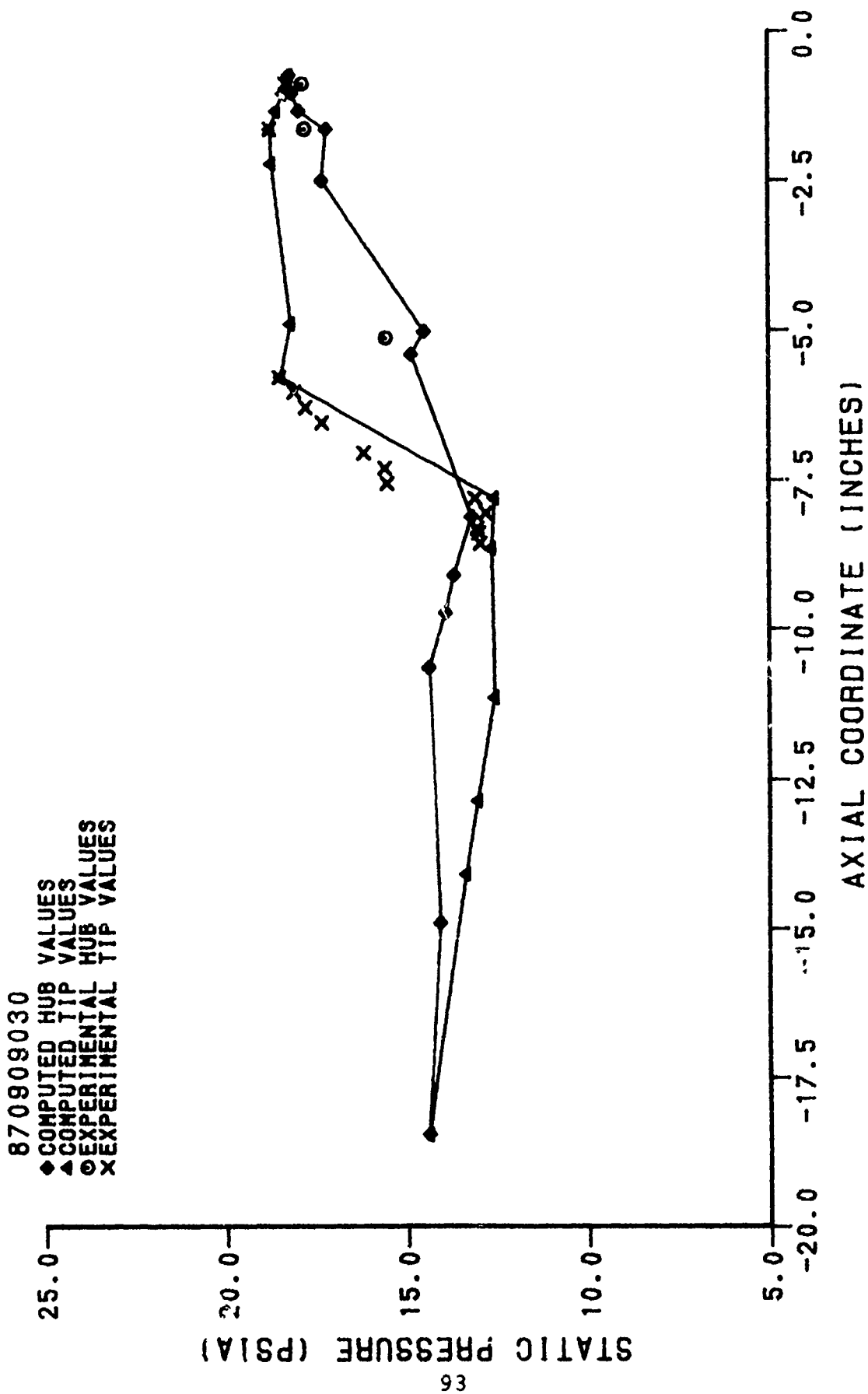


Figure 70. Static Pressure Distribution (870909030)

870808032

◆ COMPUTED HUB VALUES
 ▲ COMPUTED TIP VALUES
 ○ EXPERIMENTAL HUB VALUES
 x EXPERIMENTAL TIP VALUES

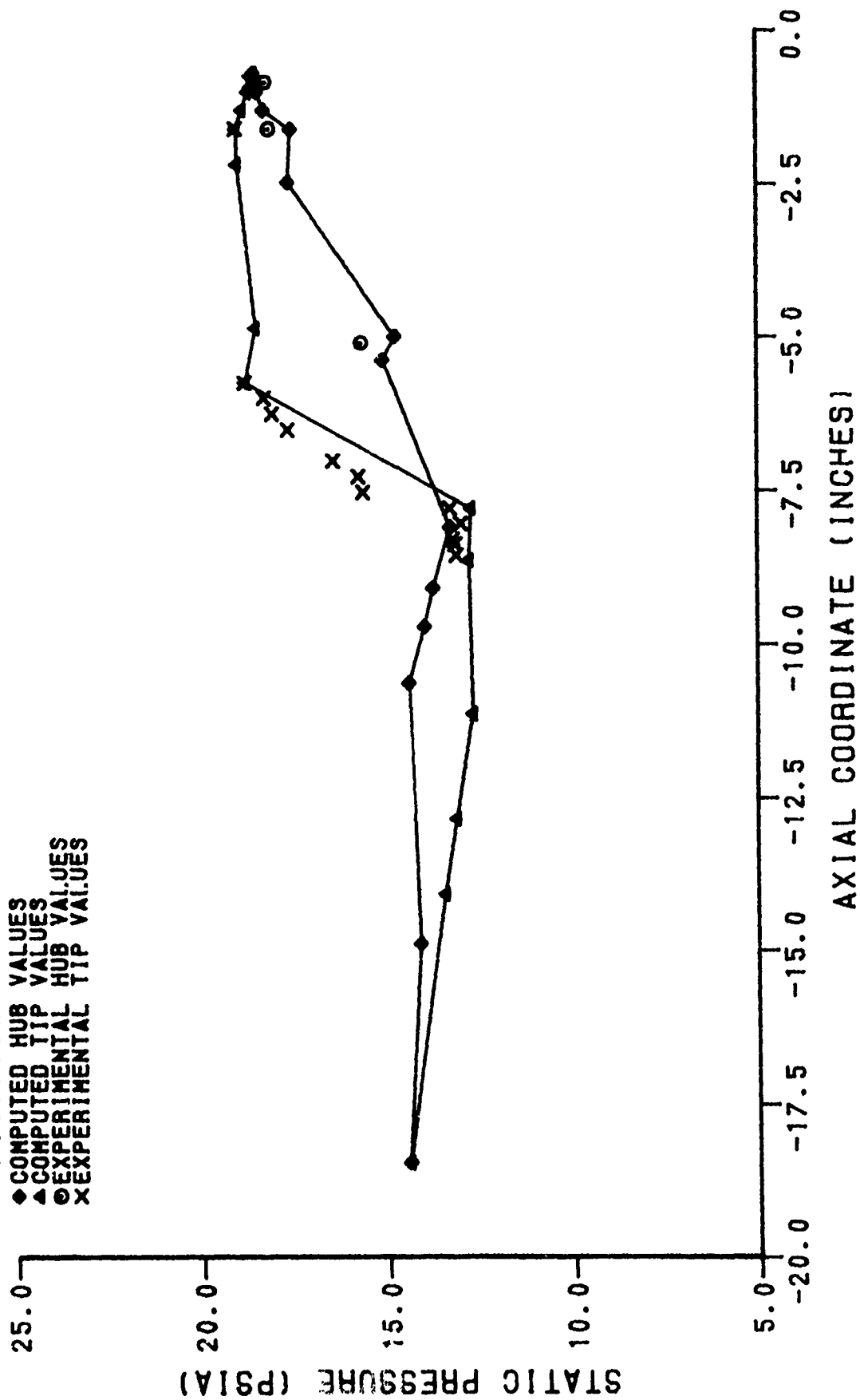


Figure 71. Static Pressure Distribution (870909032)

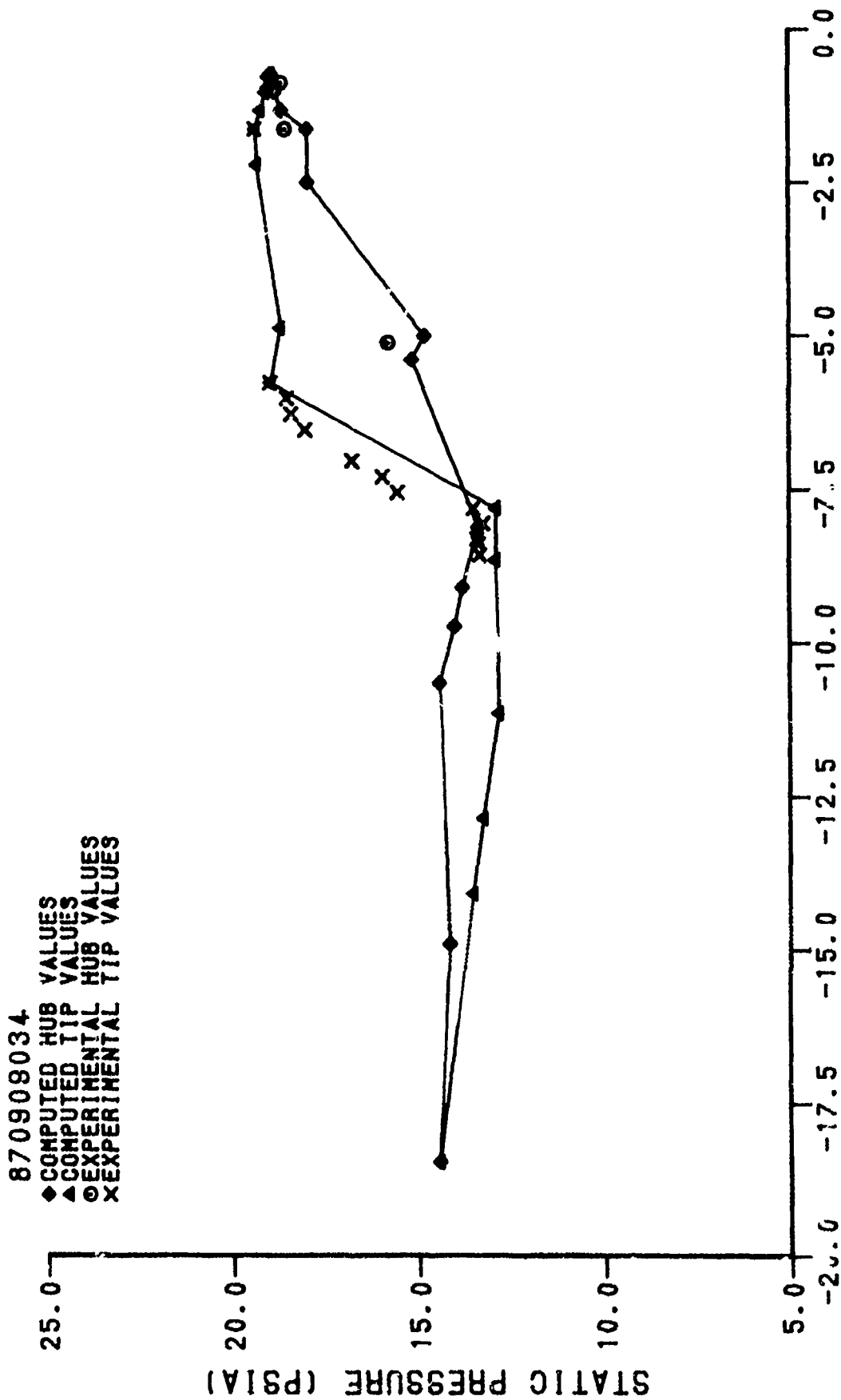


Figure 72. Static Pressure Distribution (870908034)

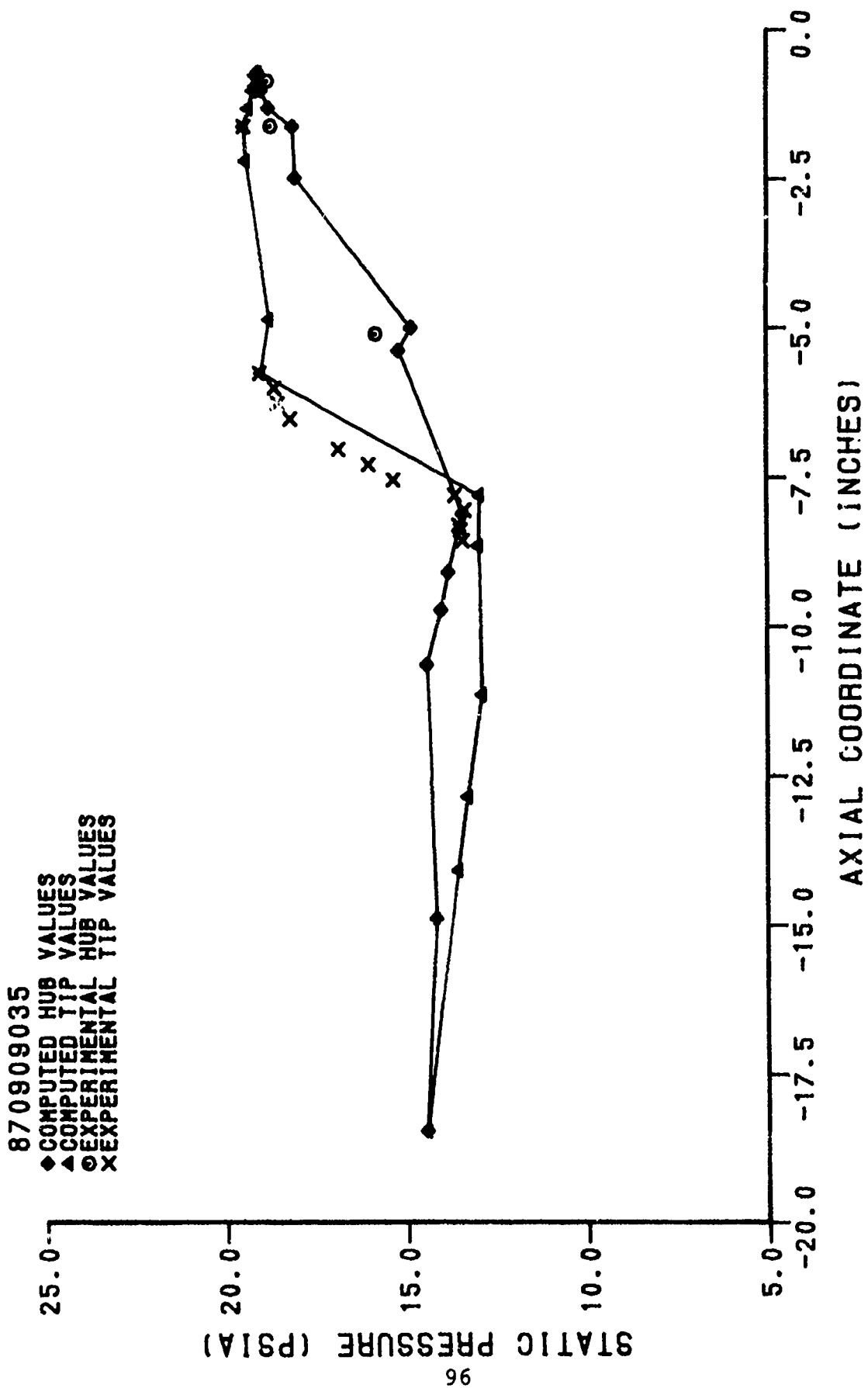


Figure 73. Static Pressure Distribution (870909035)

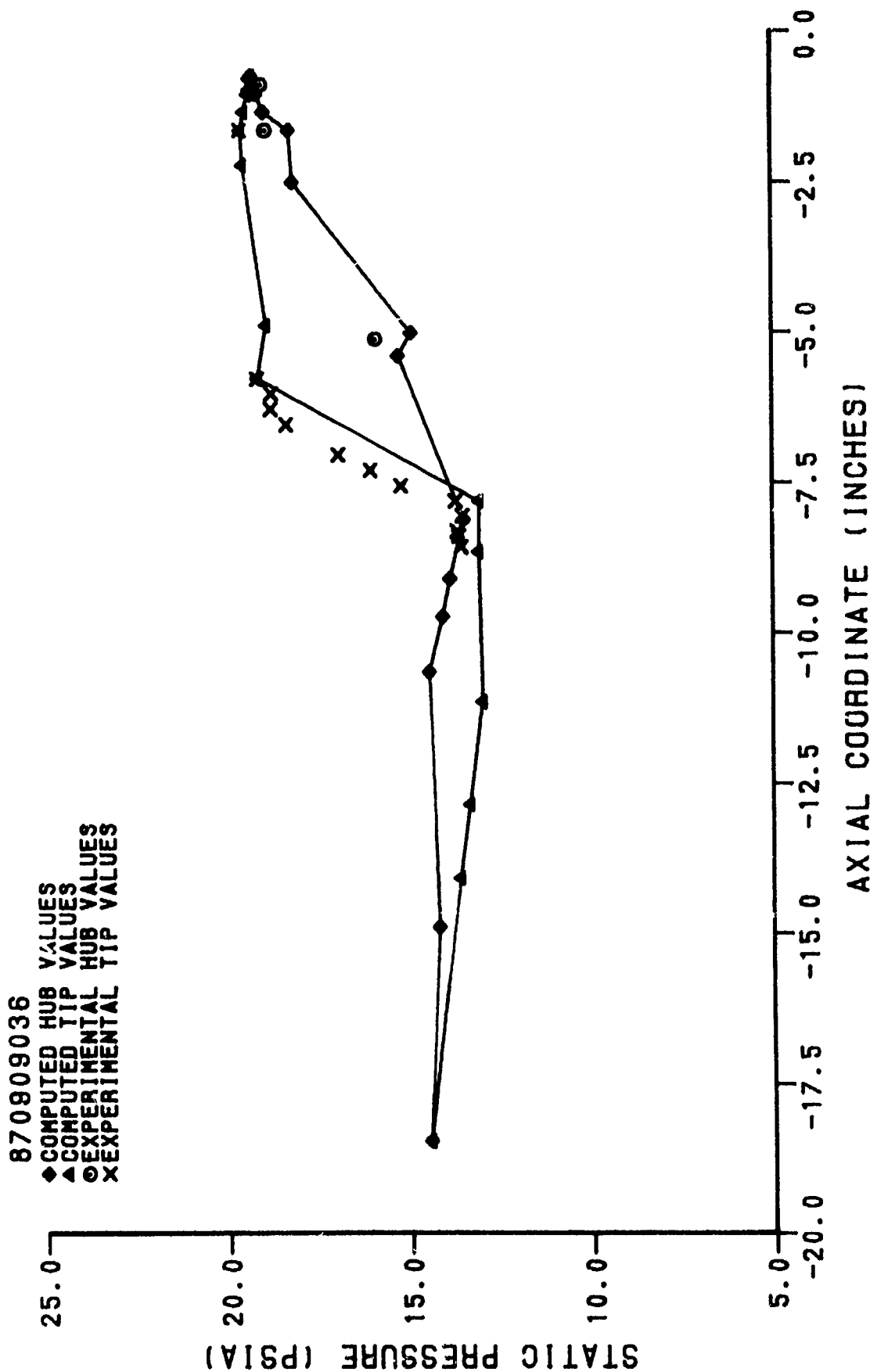


Figure 74. Static Pressure Distribution (870909036)

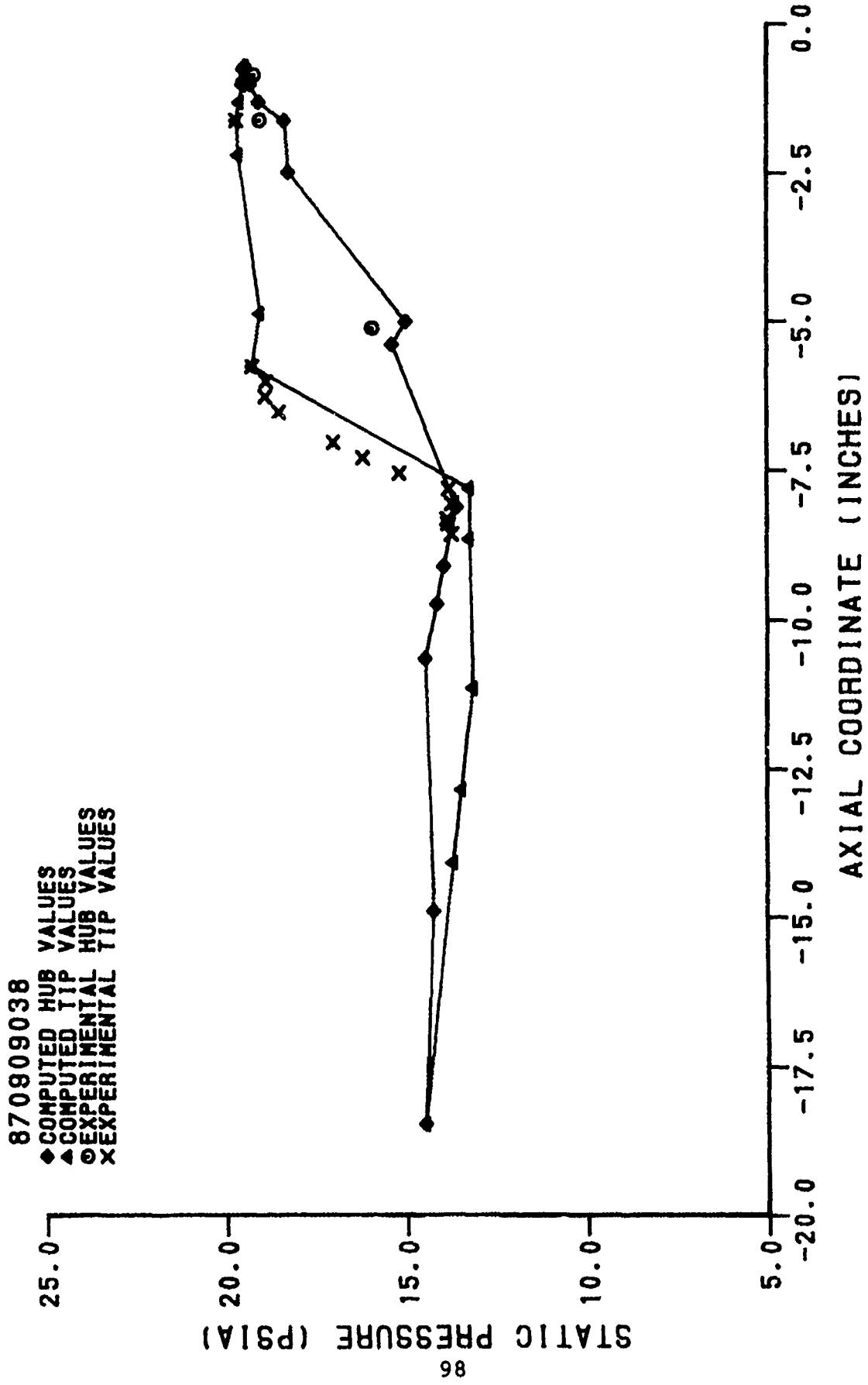


Figure 75. Static Pressure Distribution (870909038)

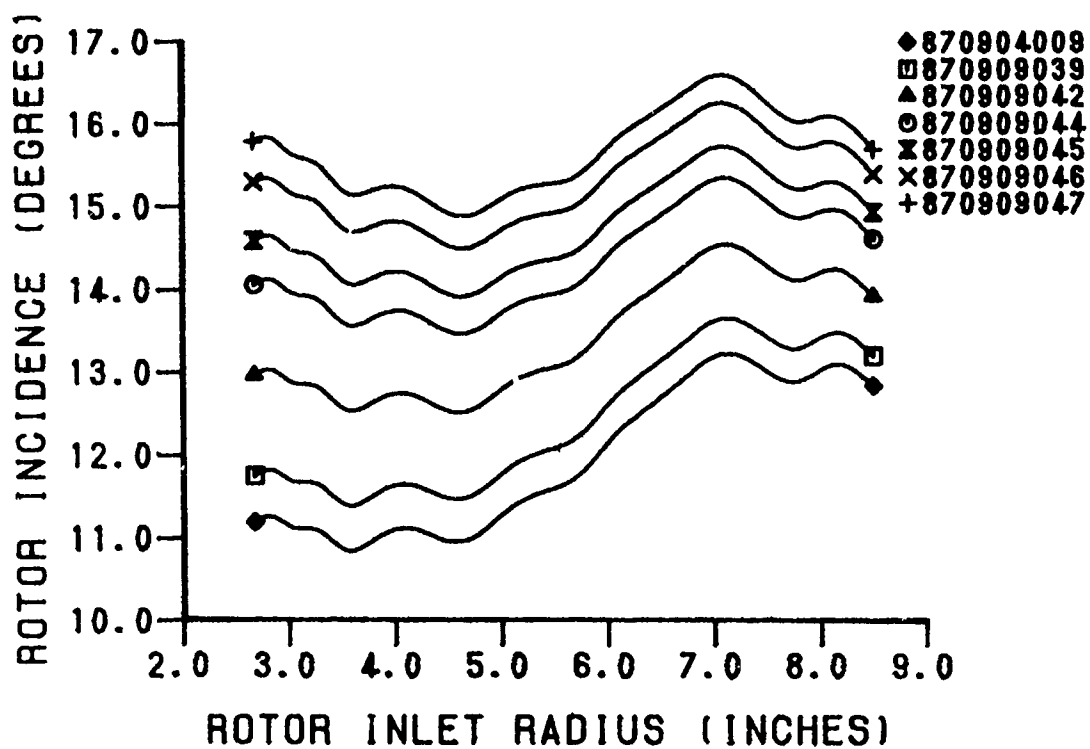


Figure 76. Rotor Incidence Angle (60% N)

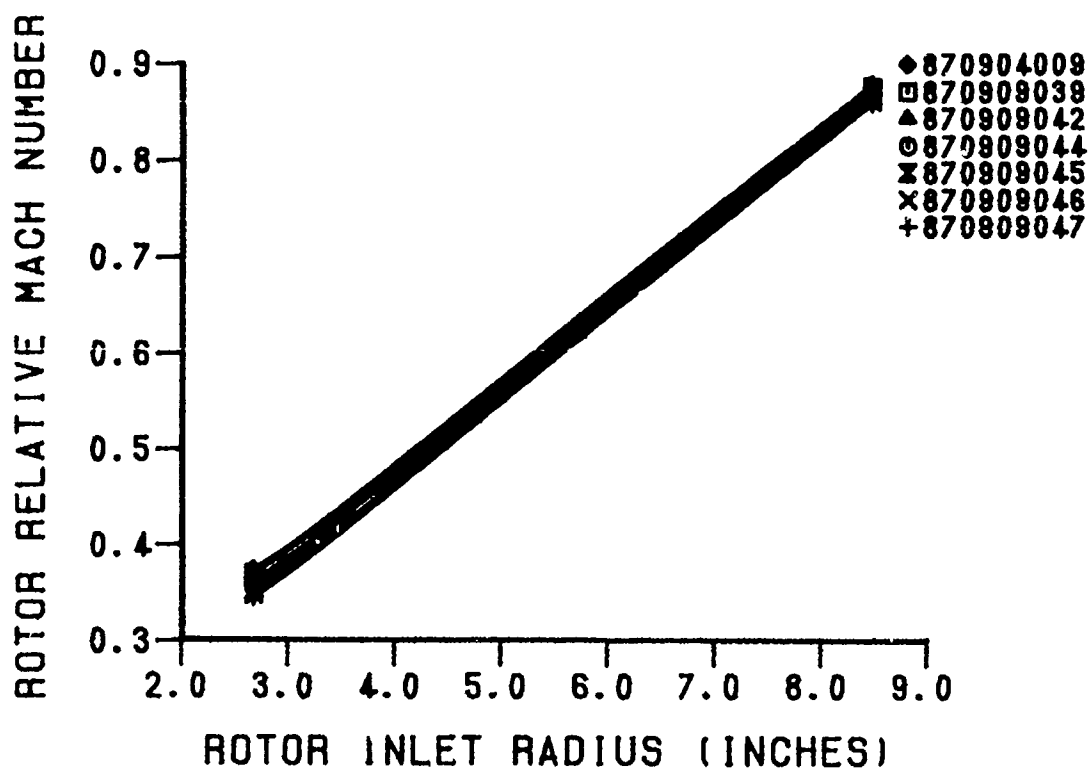


Figure 77. Rotor Relative Inlet Mach Number (60% N)

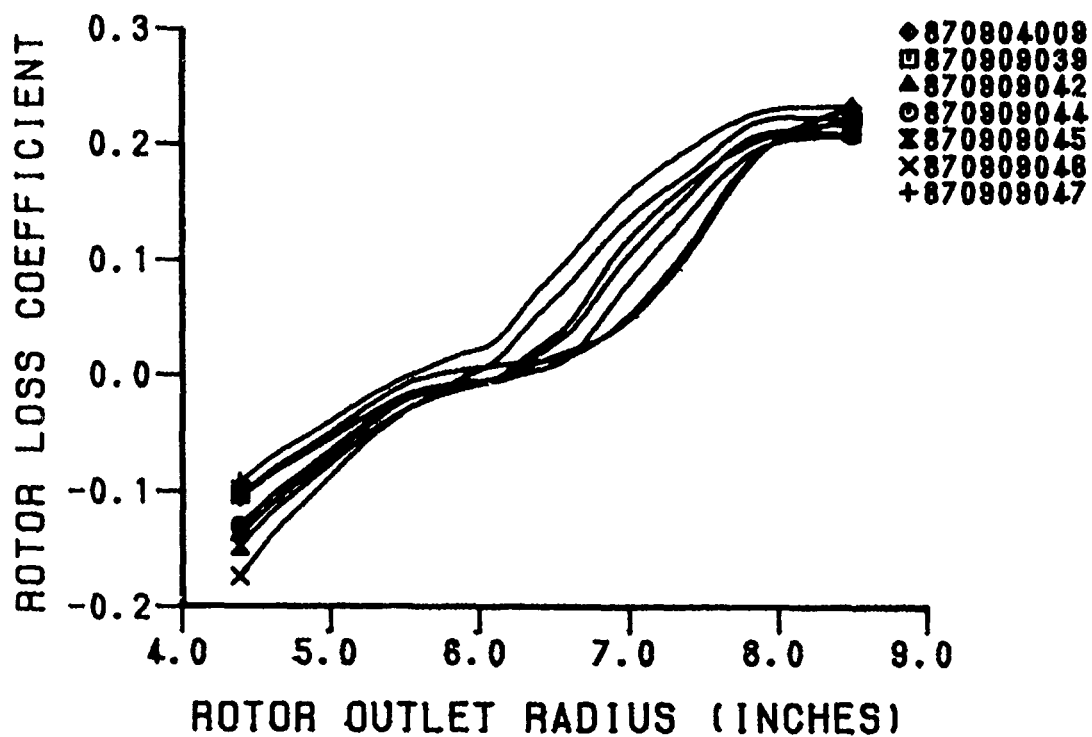


Figure 78. Rotor Loss Coefficient (60% N)

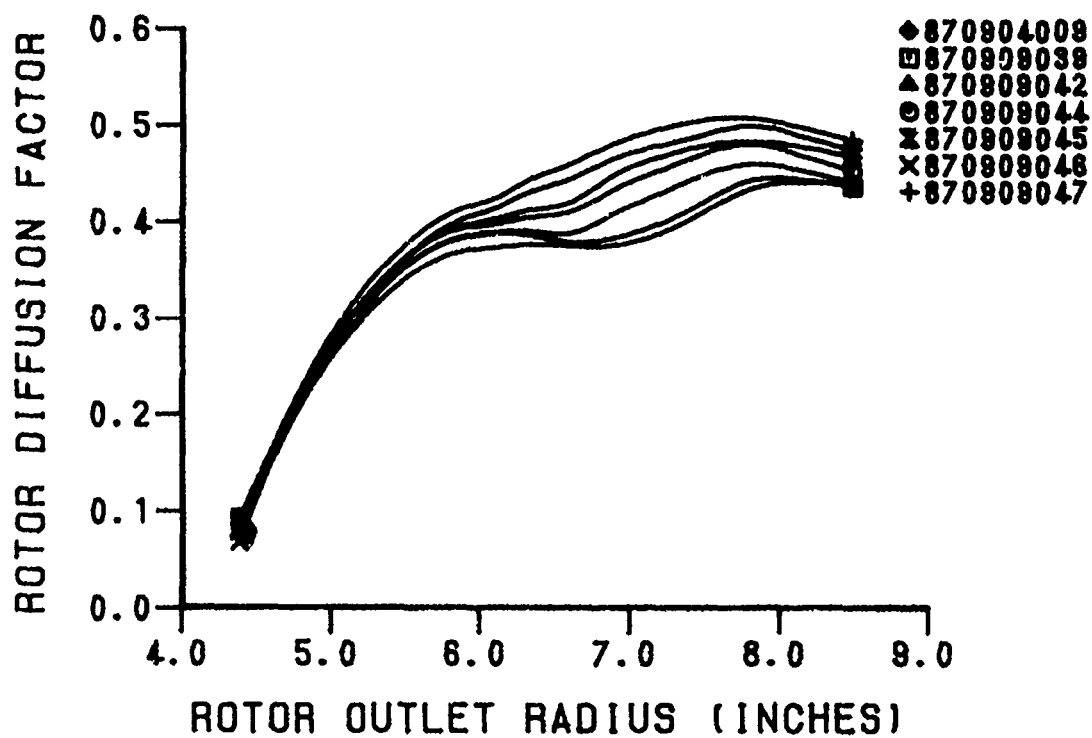


Figure 79. Rotor Diffusion Factor (60% N)

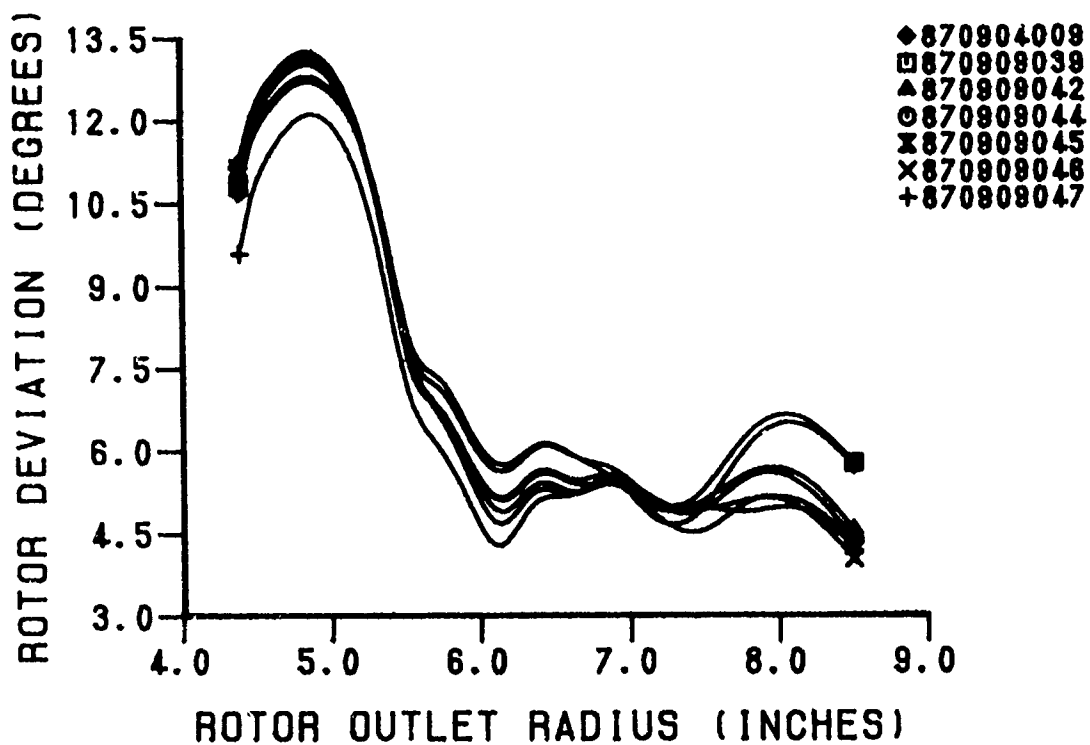


Figure 80. Rotor Deviation Angle (60% N)

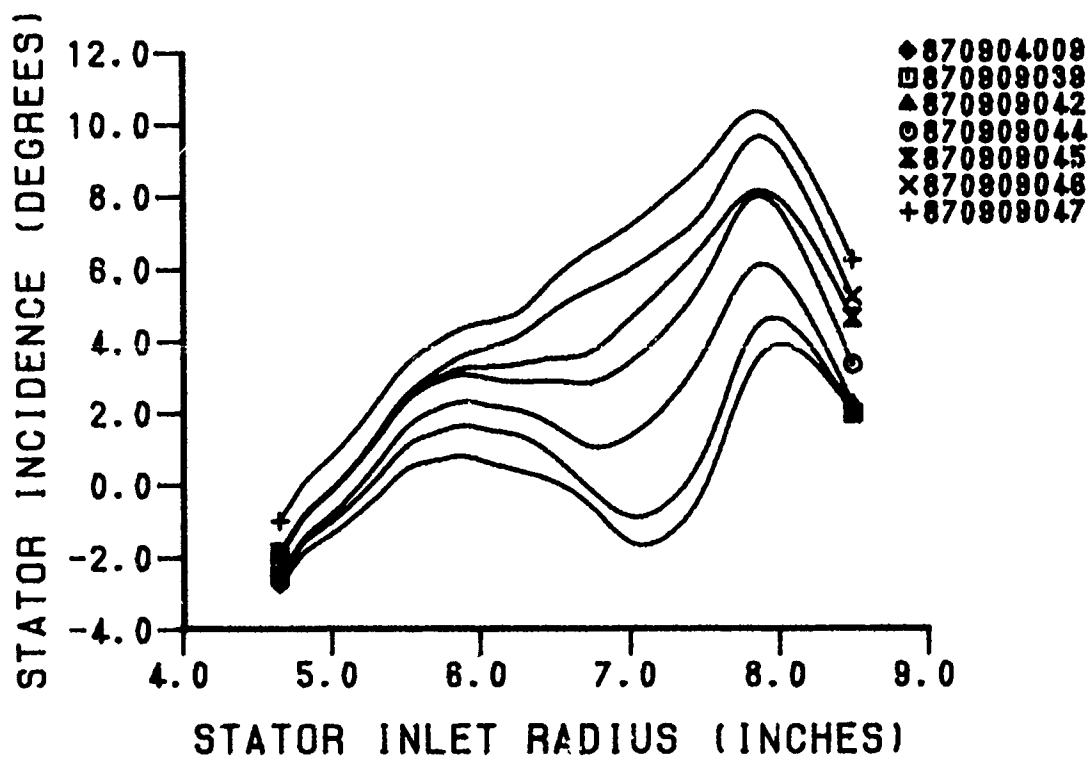


Figure 81. Stator Incidence Angle (60% N)

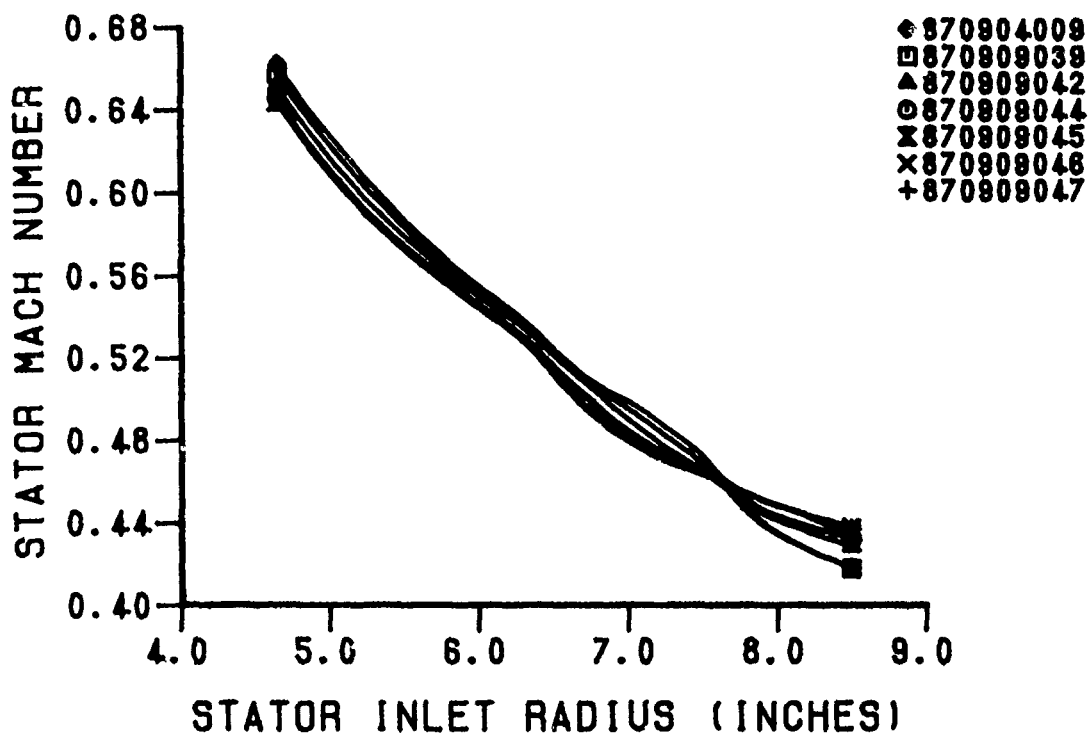


Figure 82. Stator Absolute Inlet Mach Number (60% N)

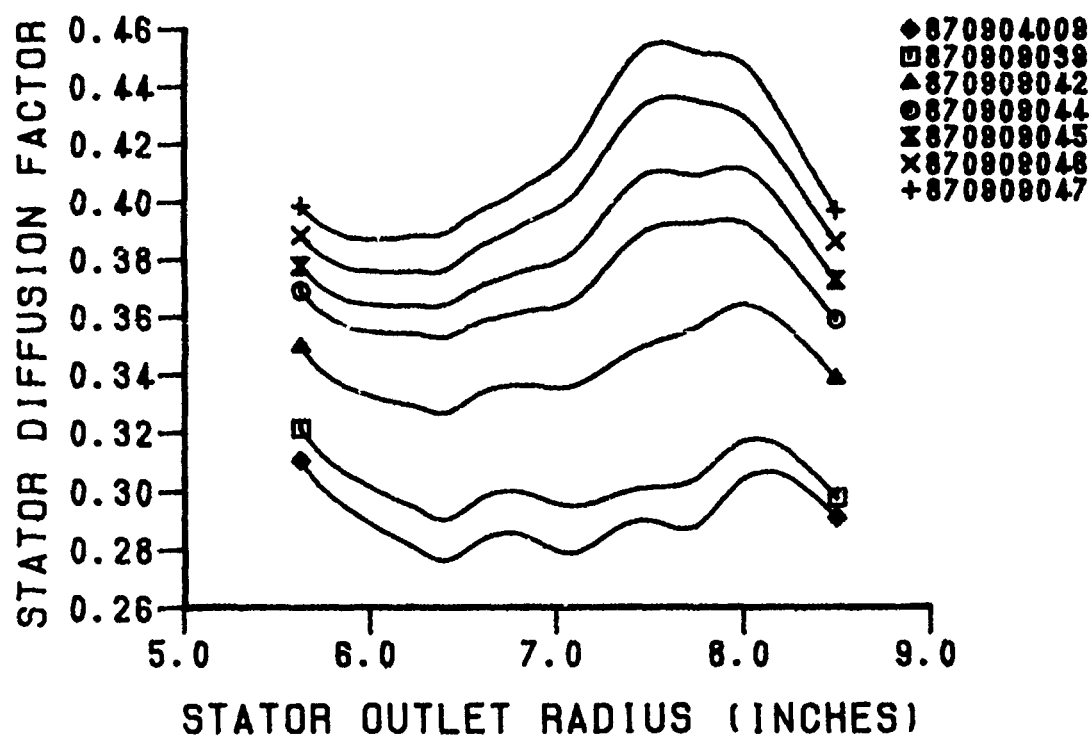


Figure 83. Stator Diffusion Factor (60% N)

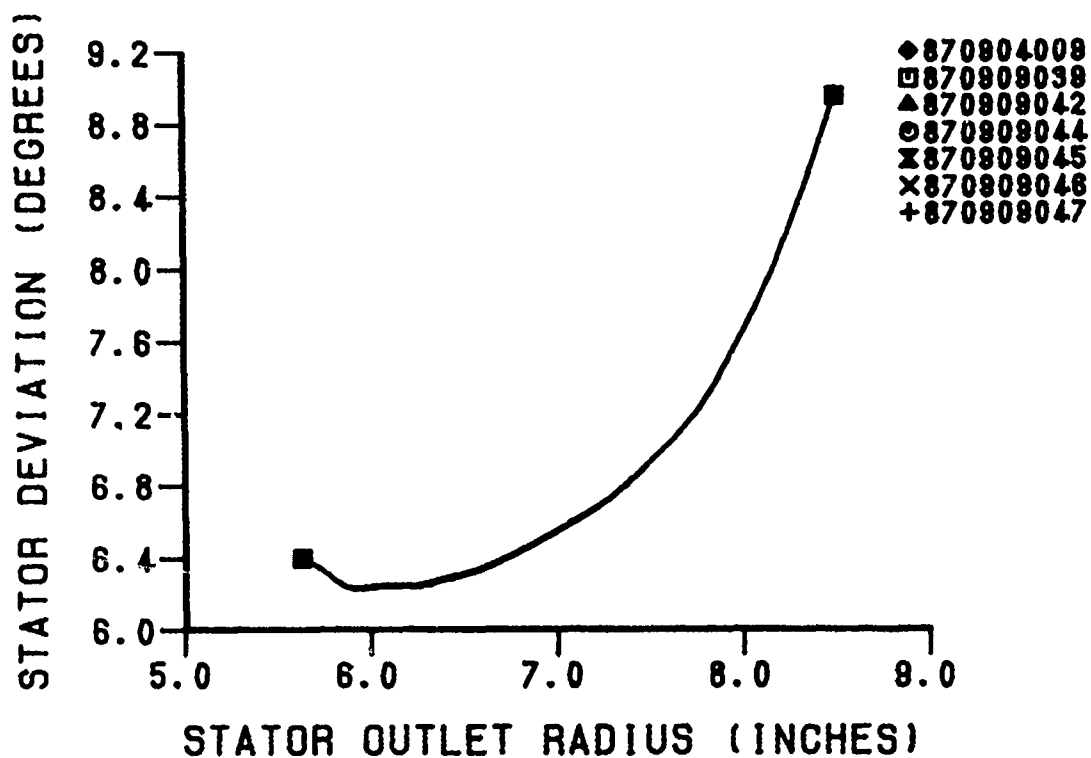


Figure 84. Stator Deviation Angle (60% N)

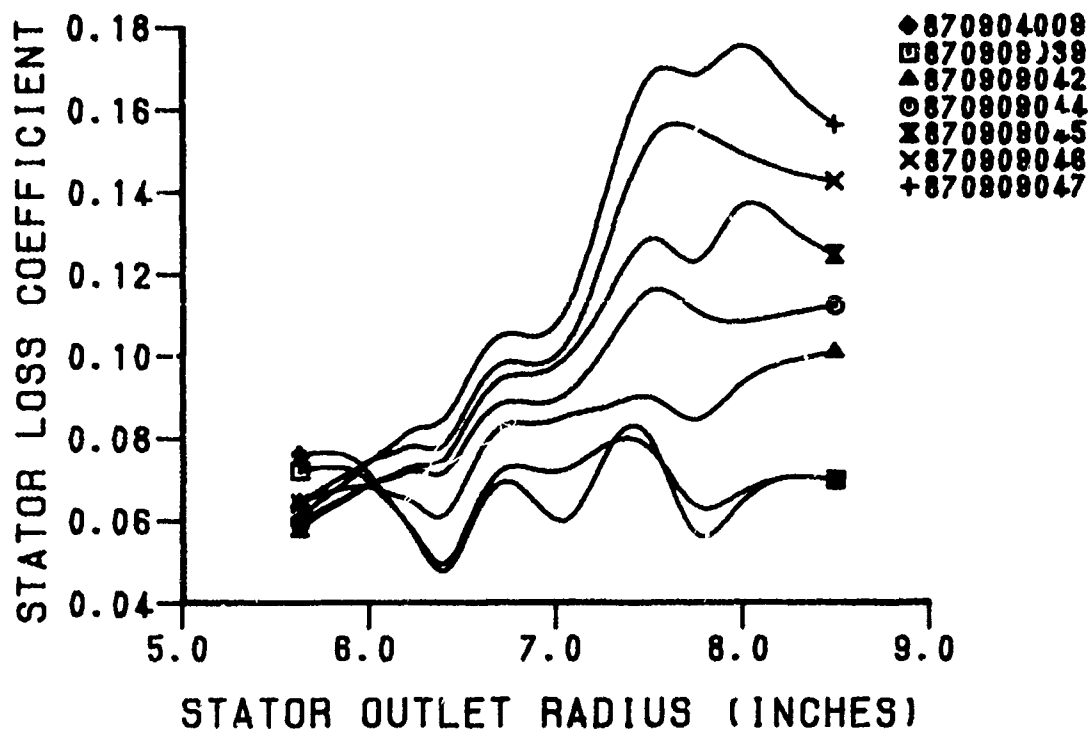


Figure 85. Stator Loss Coefficient (60% N)

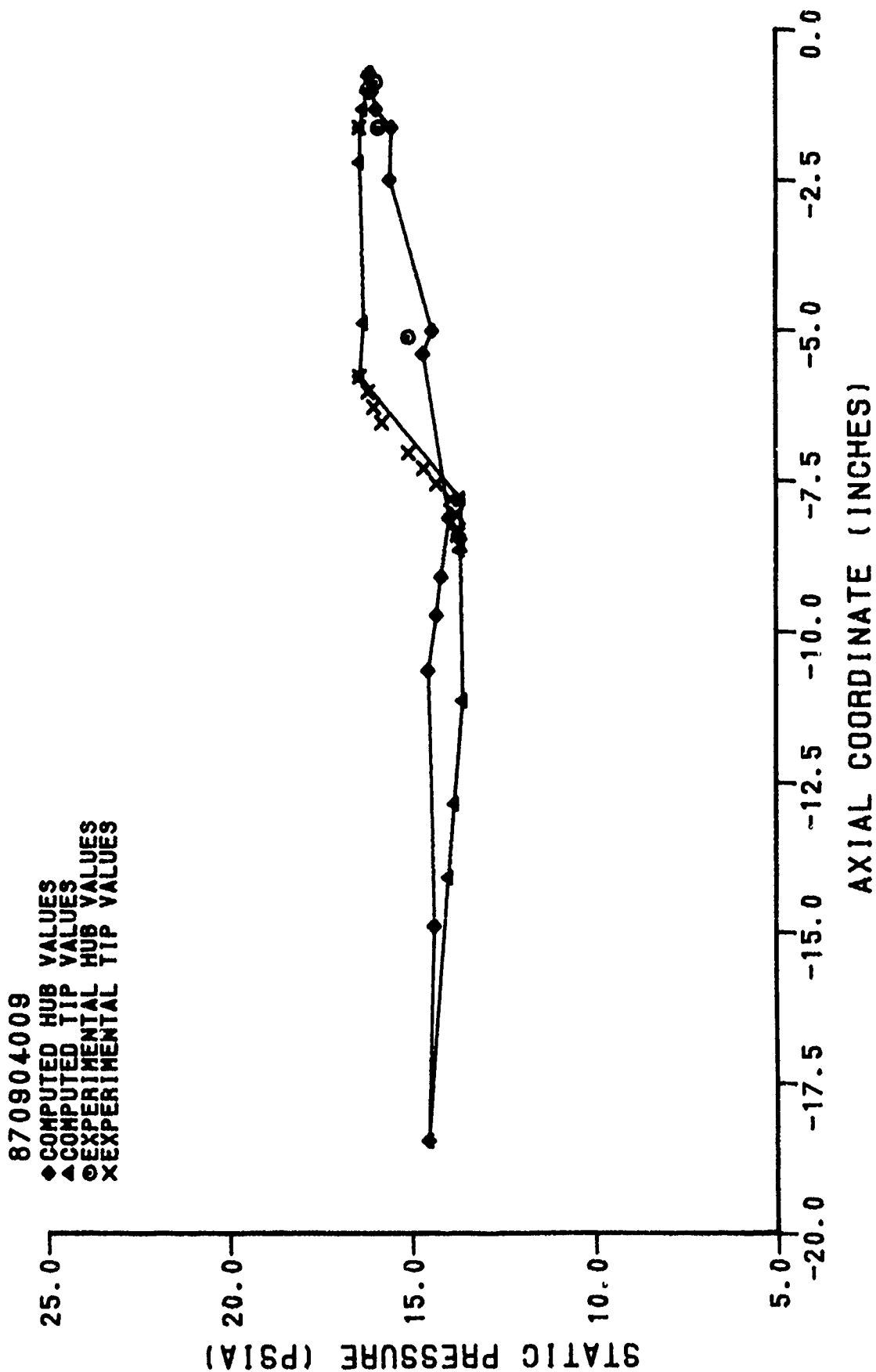


Figure 86. Static Pressure Distribution (870904009)

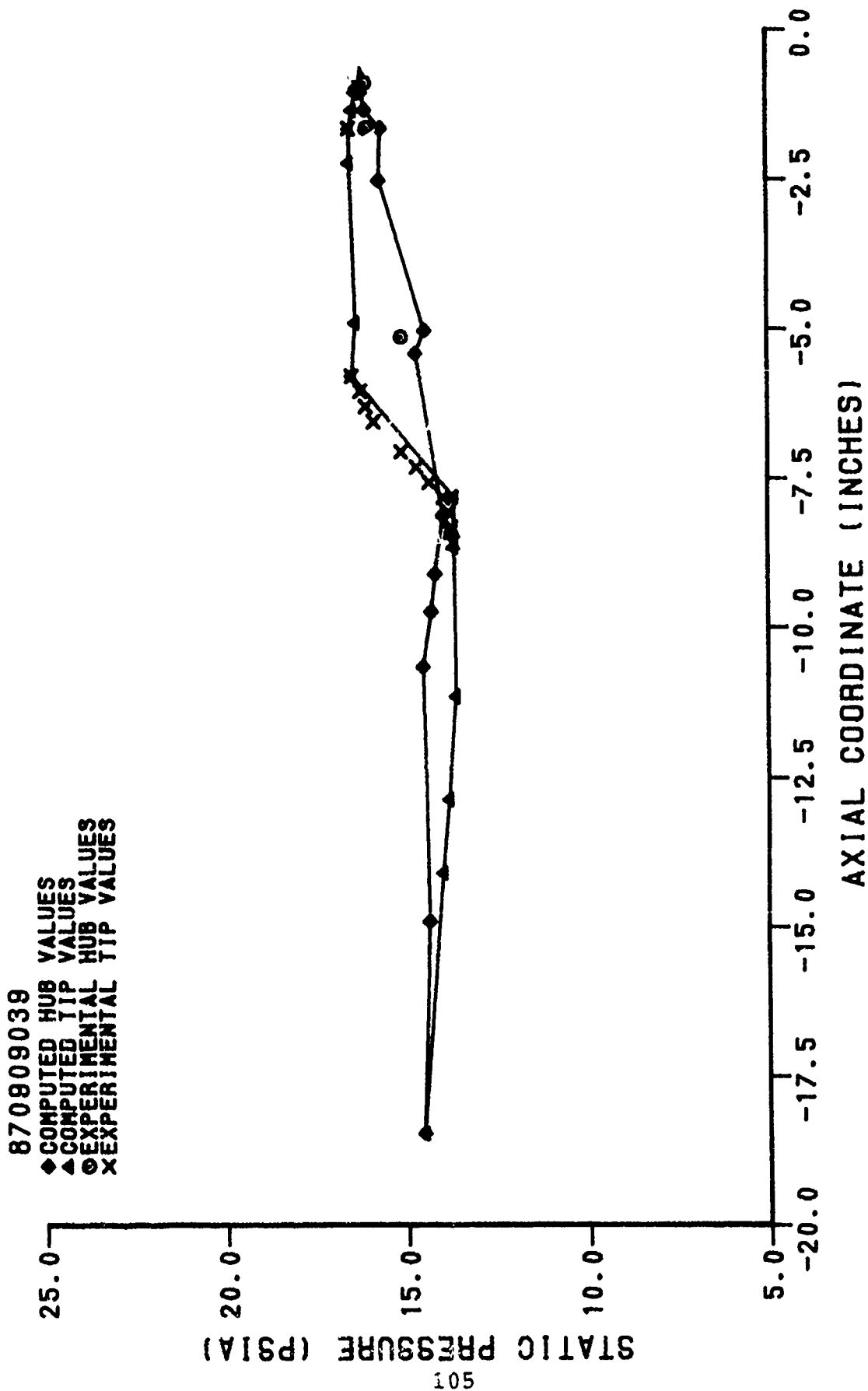


Figure 87. Static Pressure Distribution (870909039)

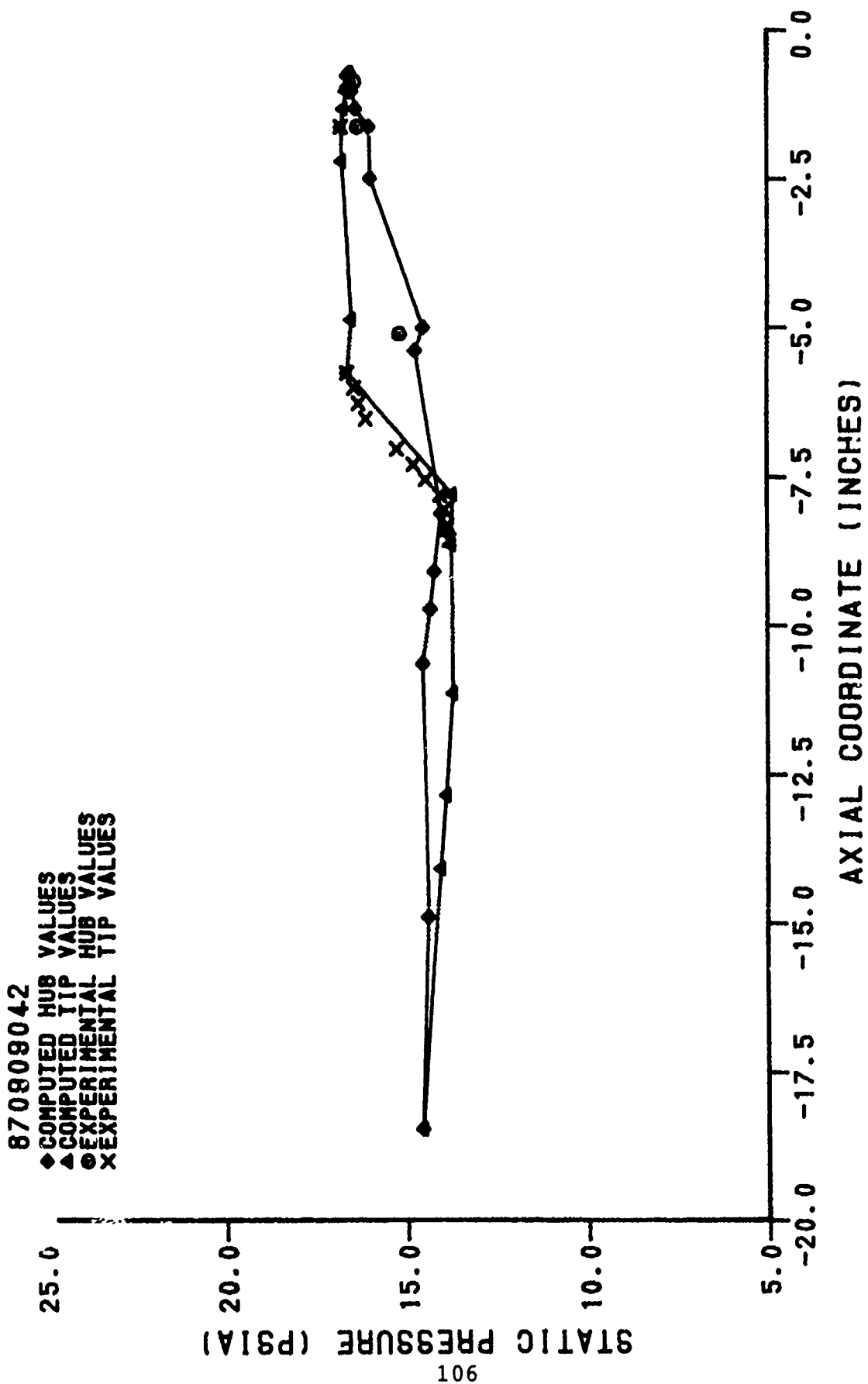


Figure 88. Static Pressure Distribution (870909042)

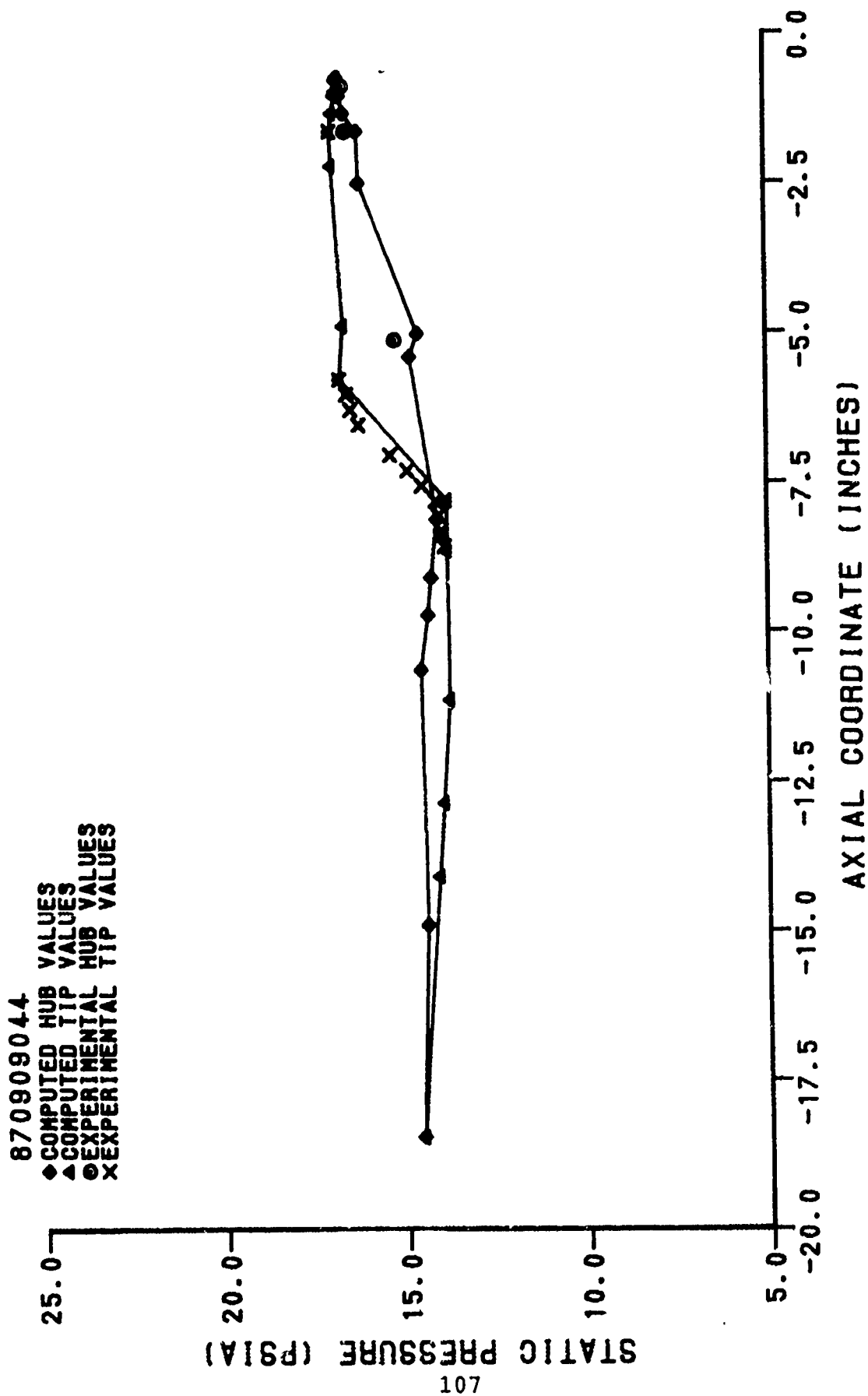


Figure 89. Static Pressure Distribution (870909044)

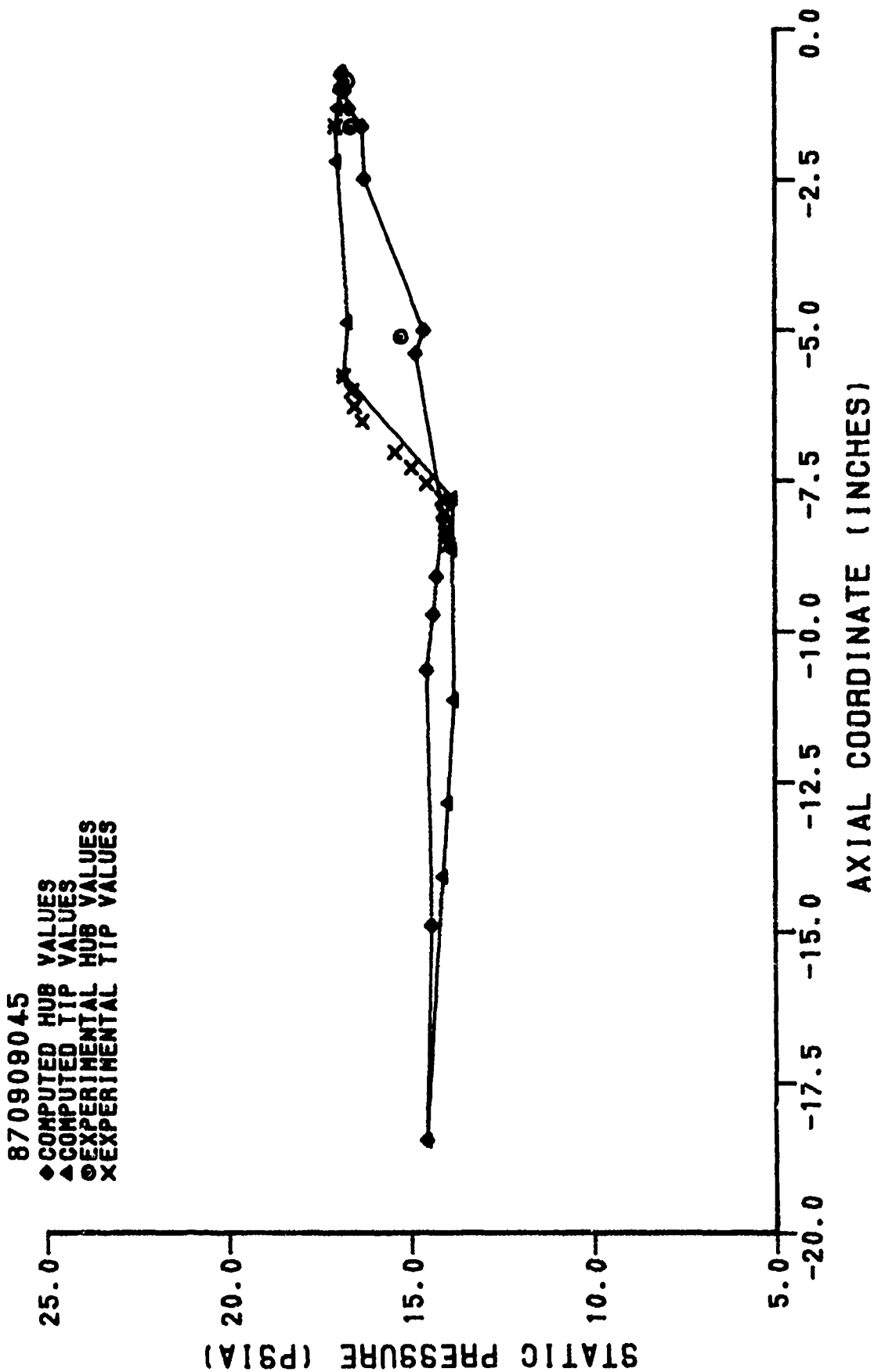


Figure 90. Static Pressure Distribution (870909045)

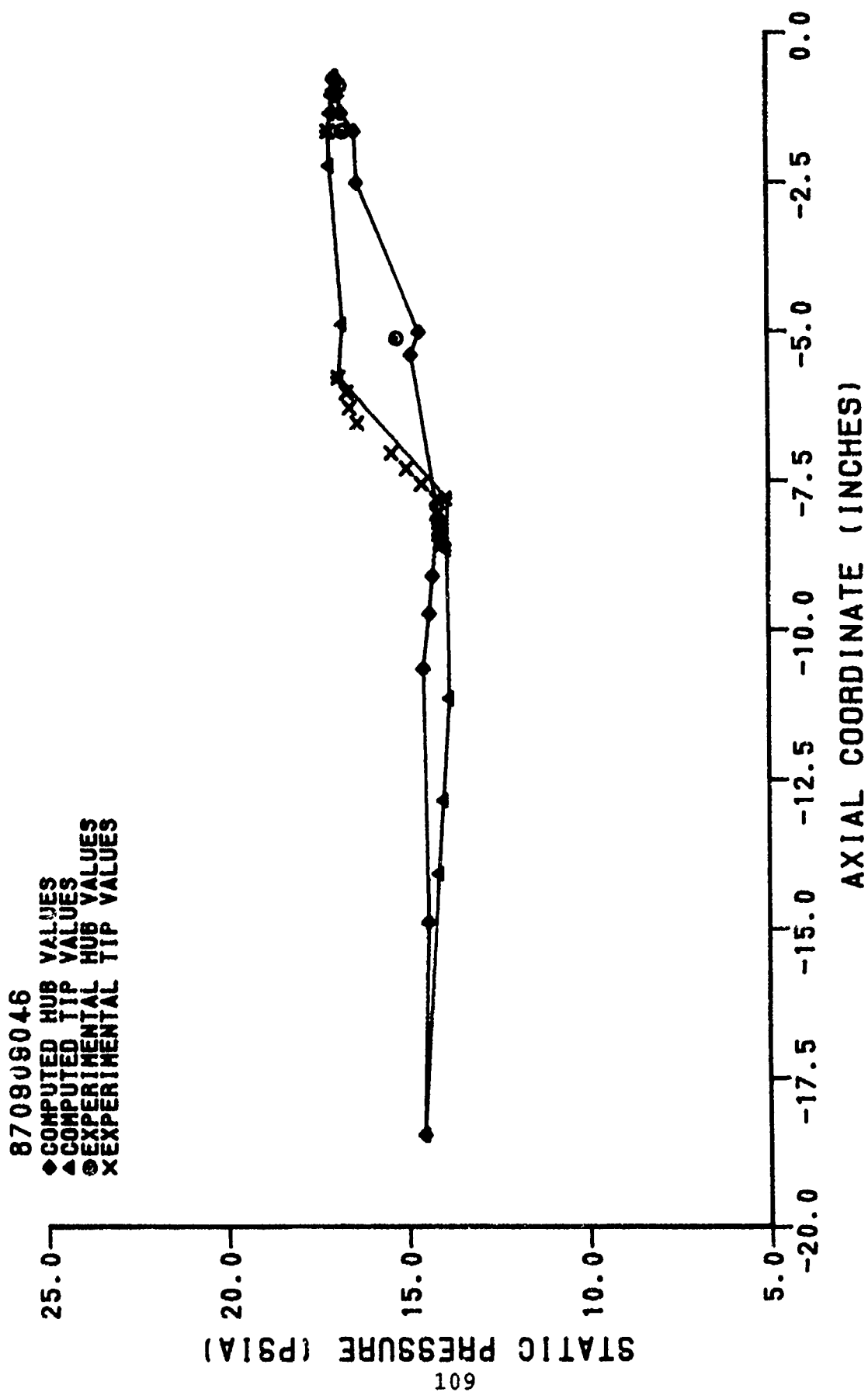


Figure 91. Static Pressure Distribution (870909046)

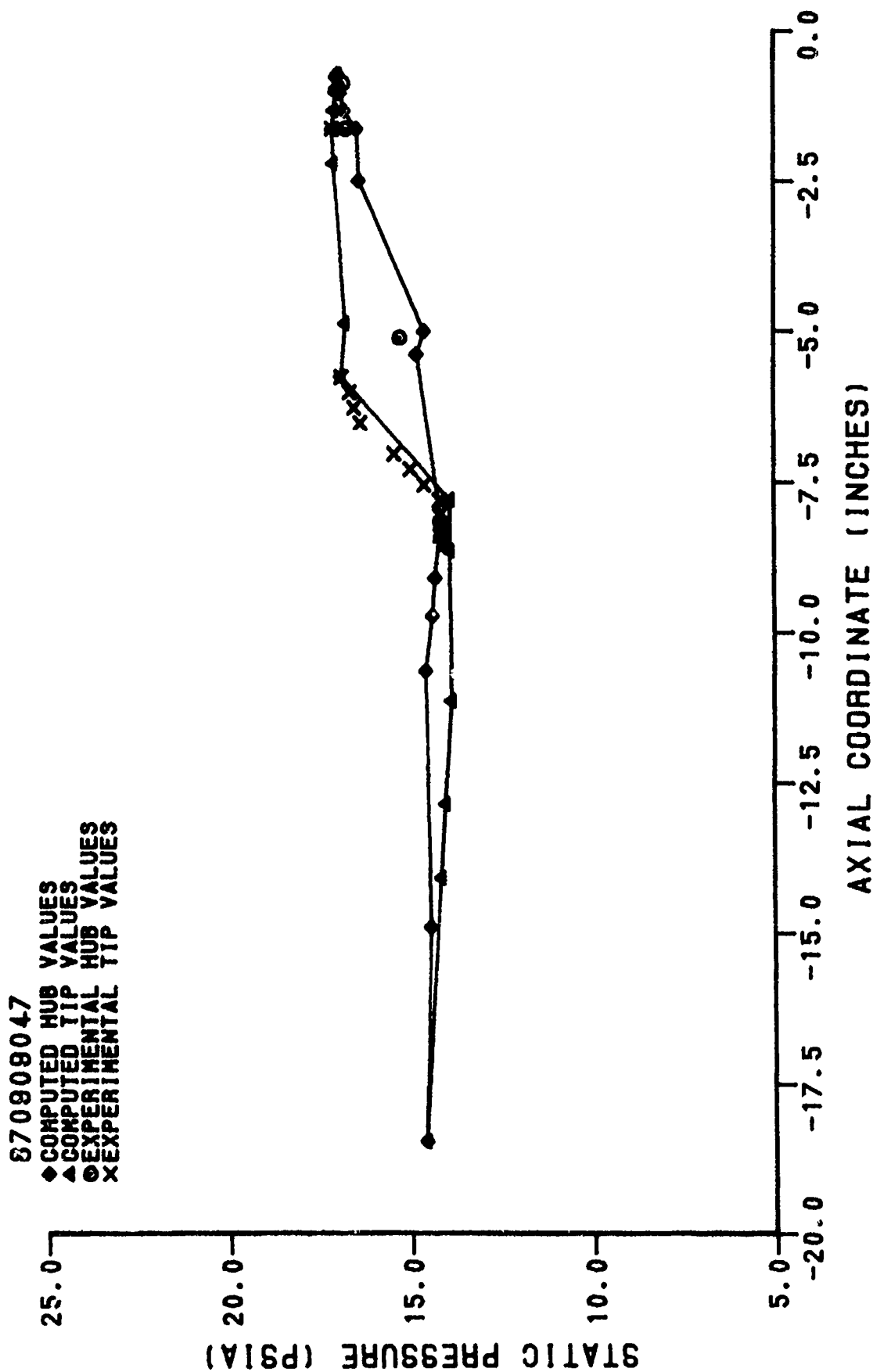


Figure 92. Static Pressure Distribution (870909047)

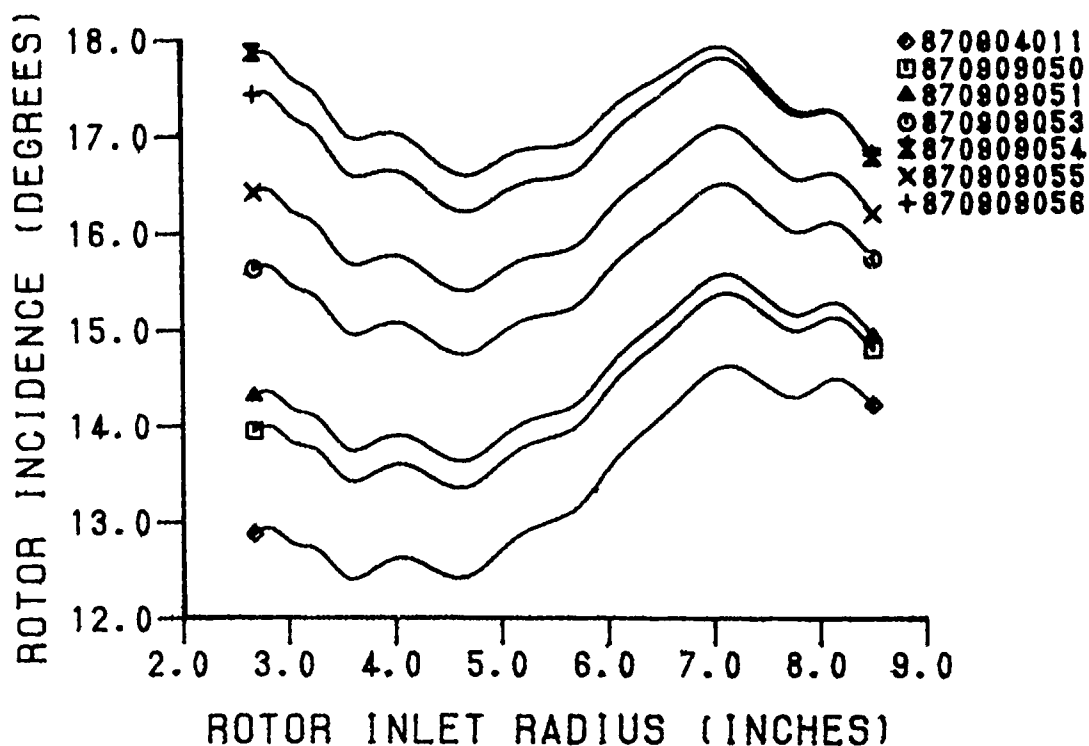


Figure 93. Rotor Incidence Angle (40% N)

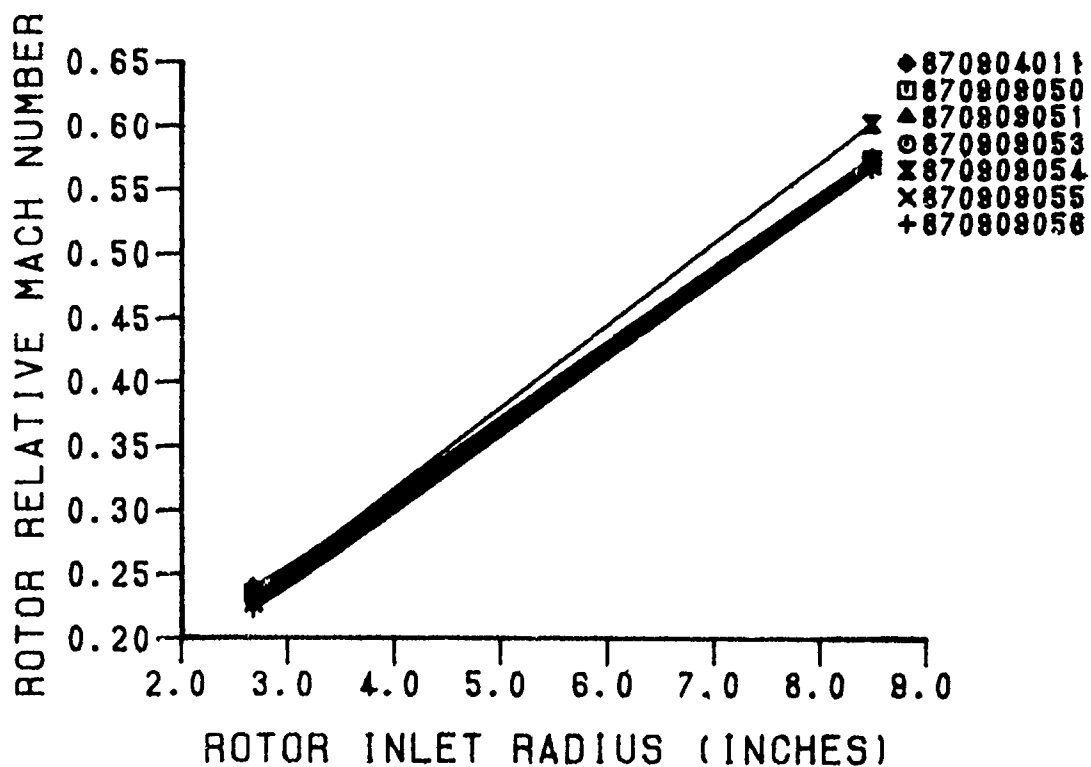


Figure 94. Rotor Relative Inlet Mach Number (40% N)

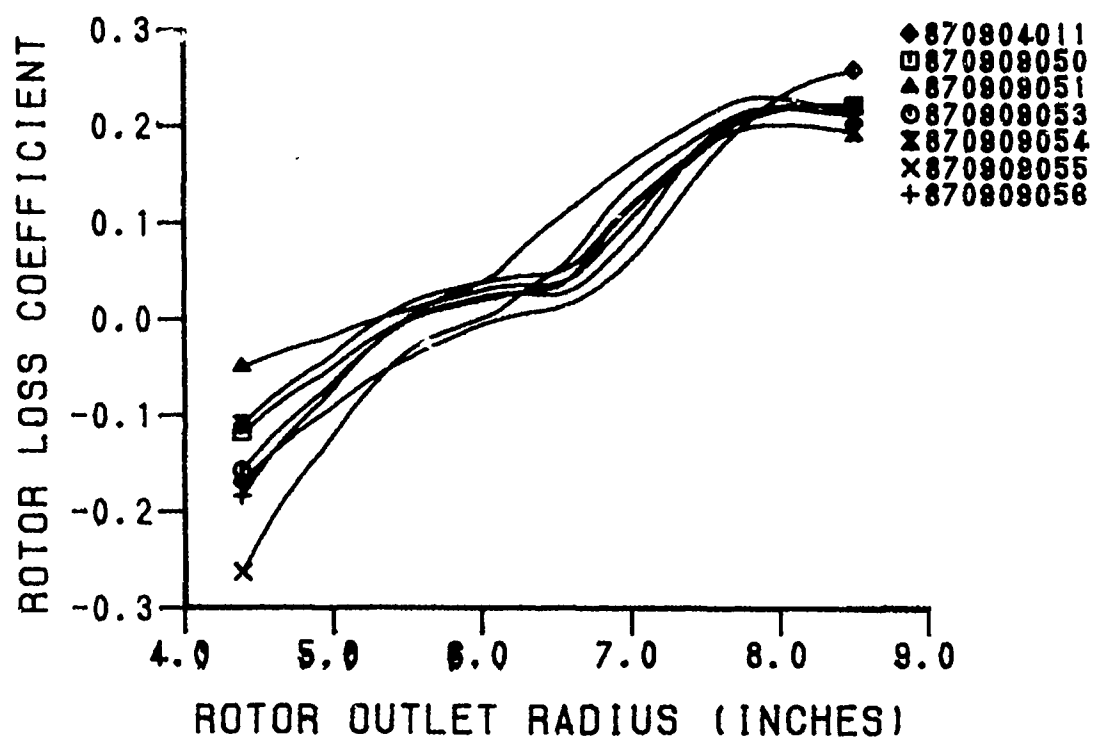


Figure 95. Rotor Loss Coefficient (40% N)

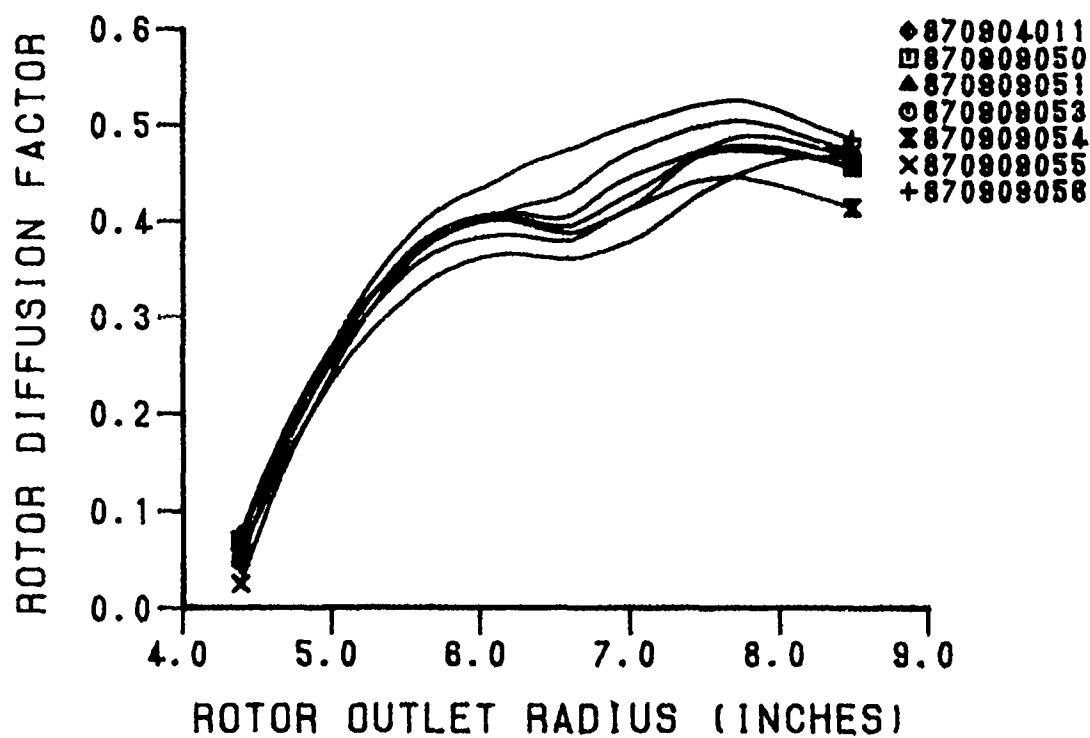


Figure 96. Rotor Diffusion Factor (40% N)

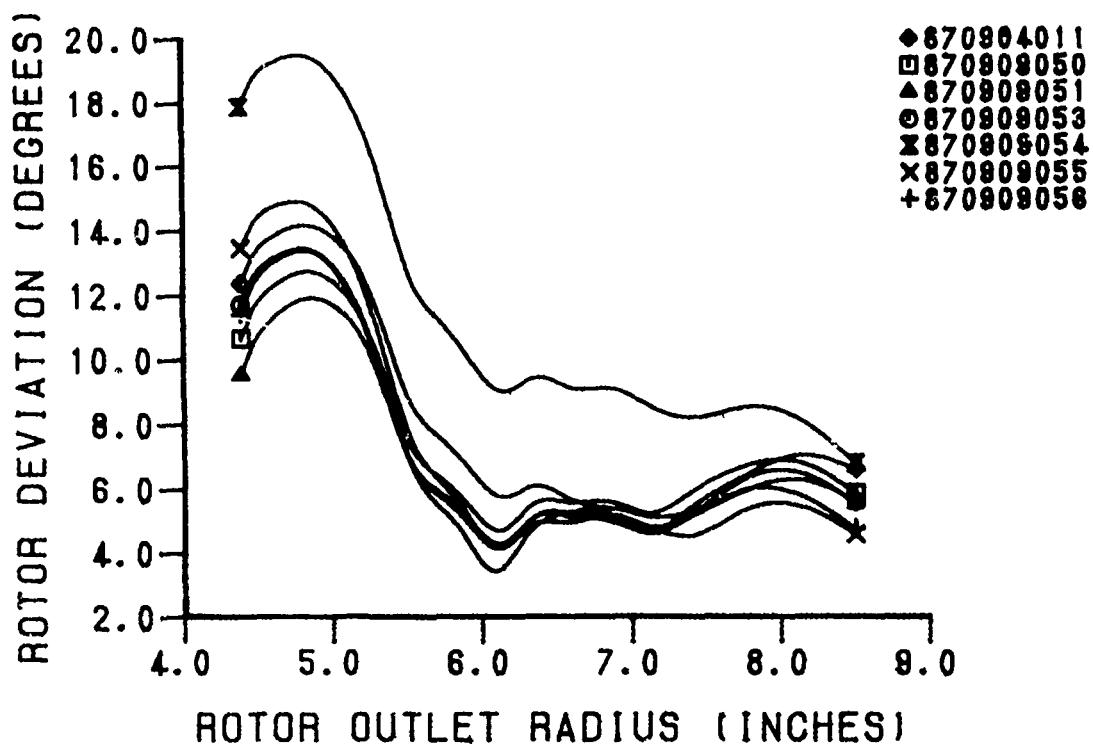


Figure 97. Rotor Deviation Angle (40% N)

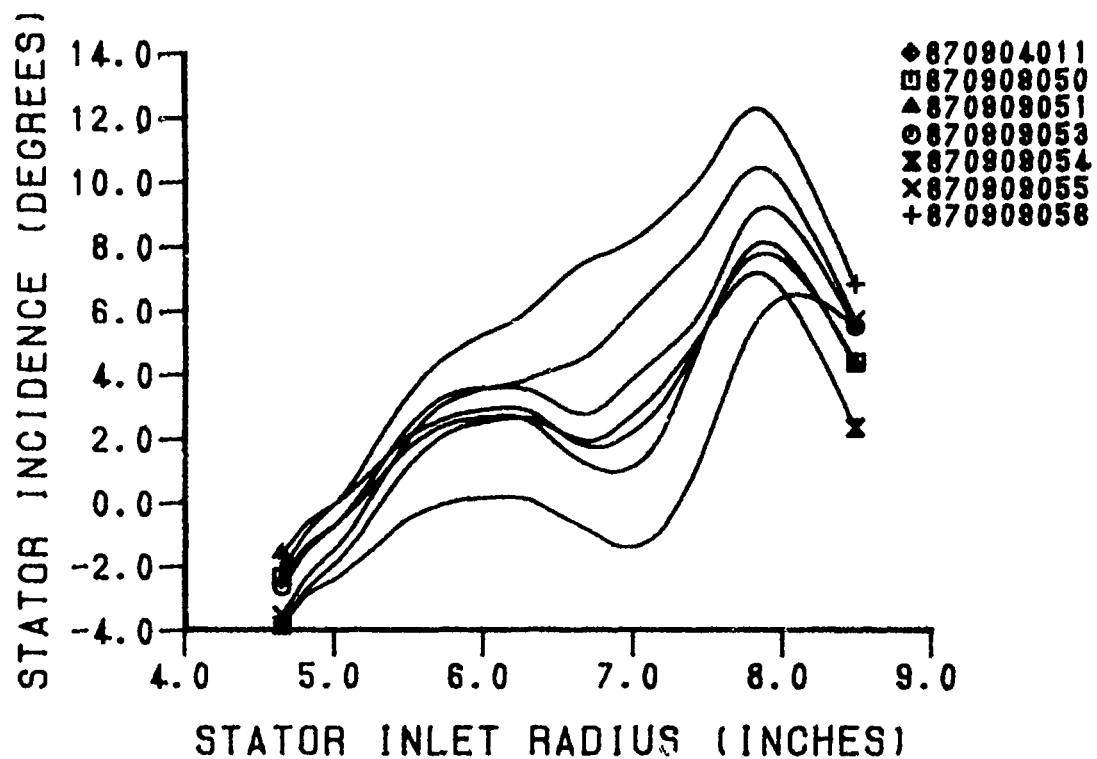


Figure 98. Stator Incidence Angle (40% N)

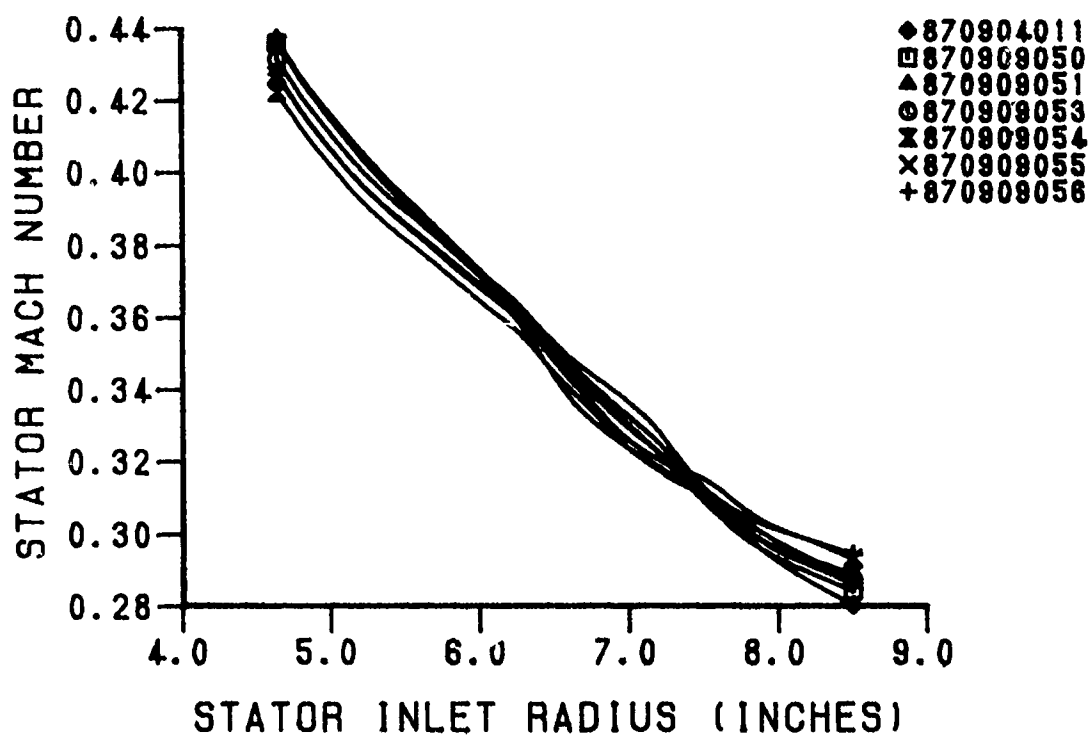


Figure 99. Stator Absolute Inlet Mach Number (40% N)

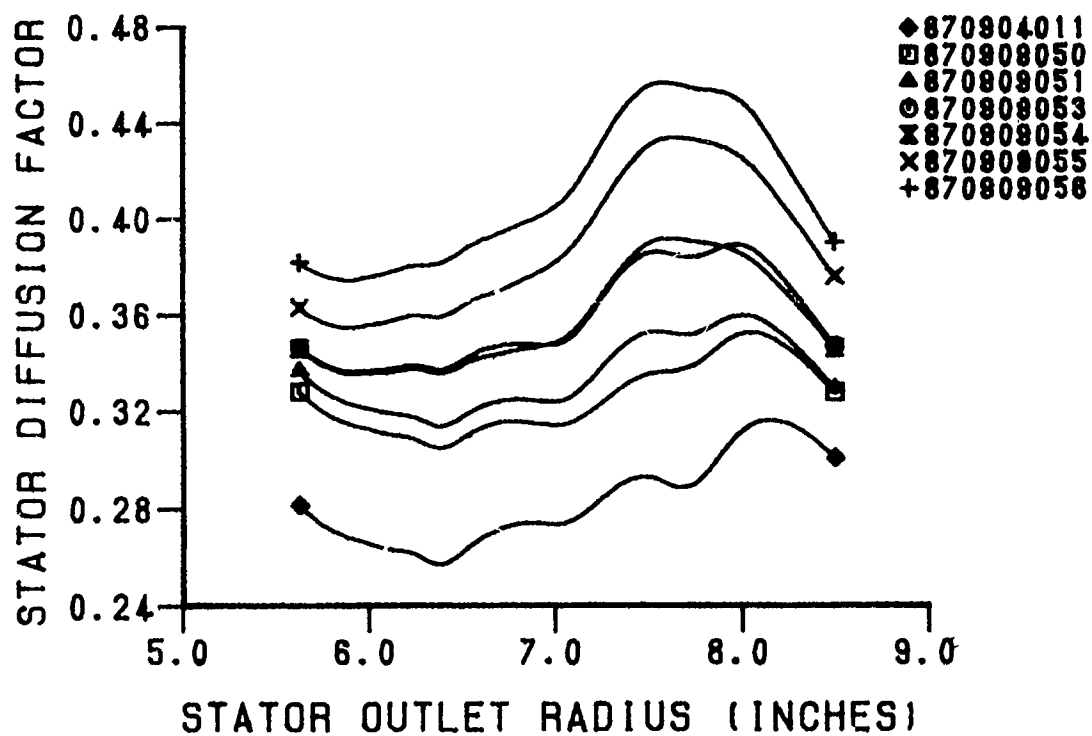


Figure 100. Stator Diffusion Factor (40% N)

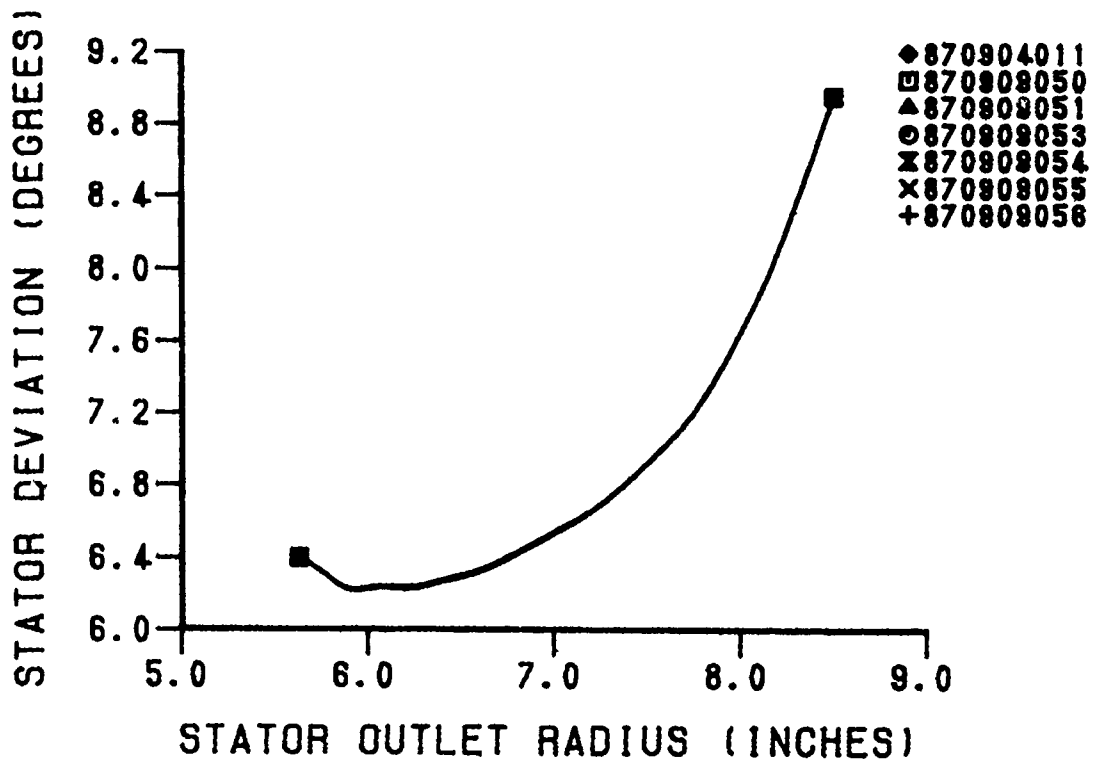


Figure 101. Stator Deviation Angle (40% N)

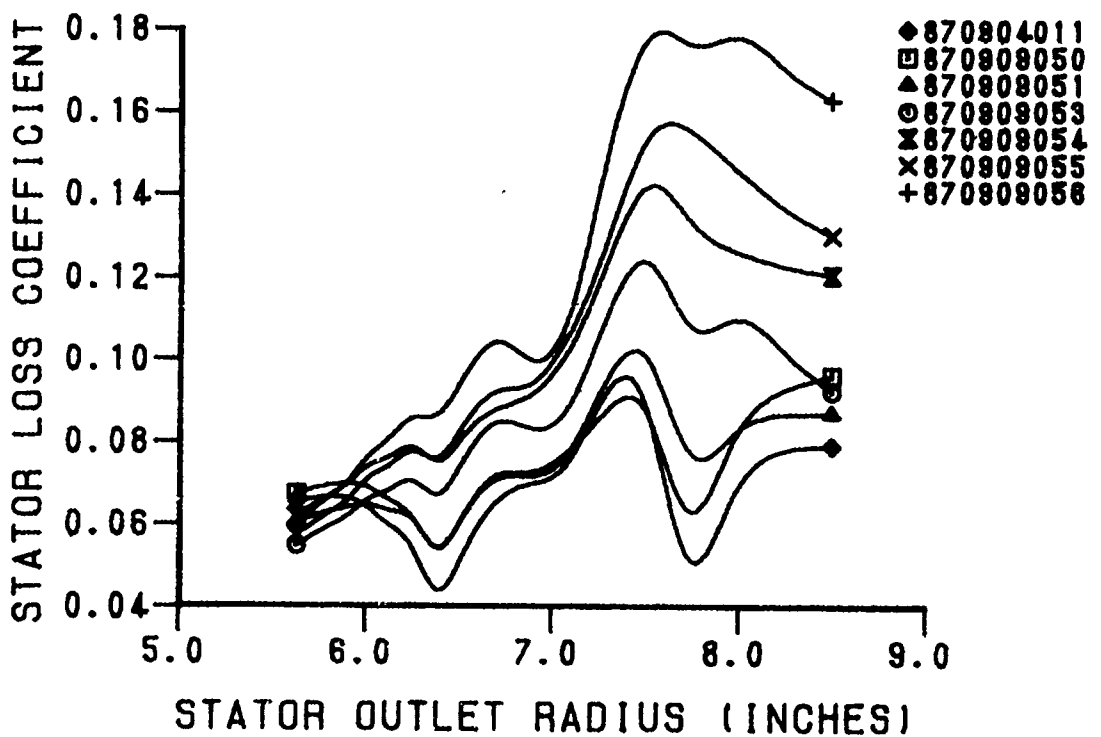


Figure 102. Stator Loss Coefficient (40% N)

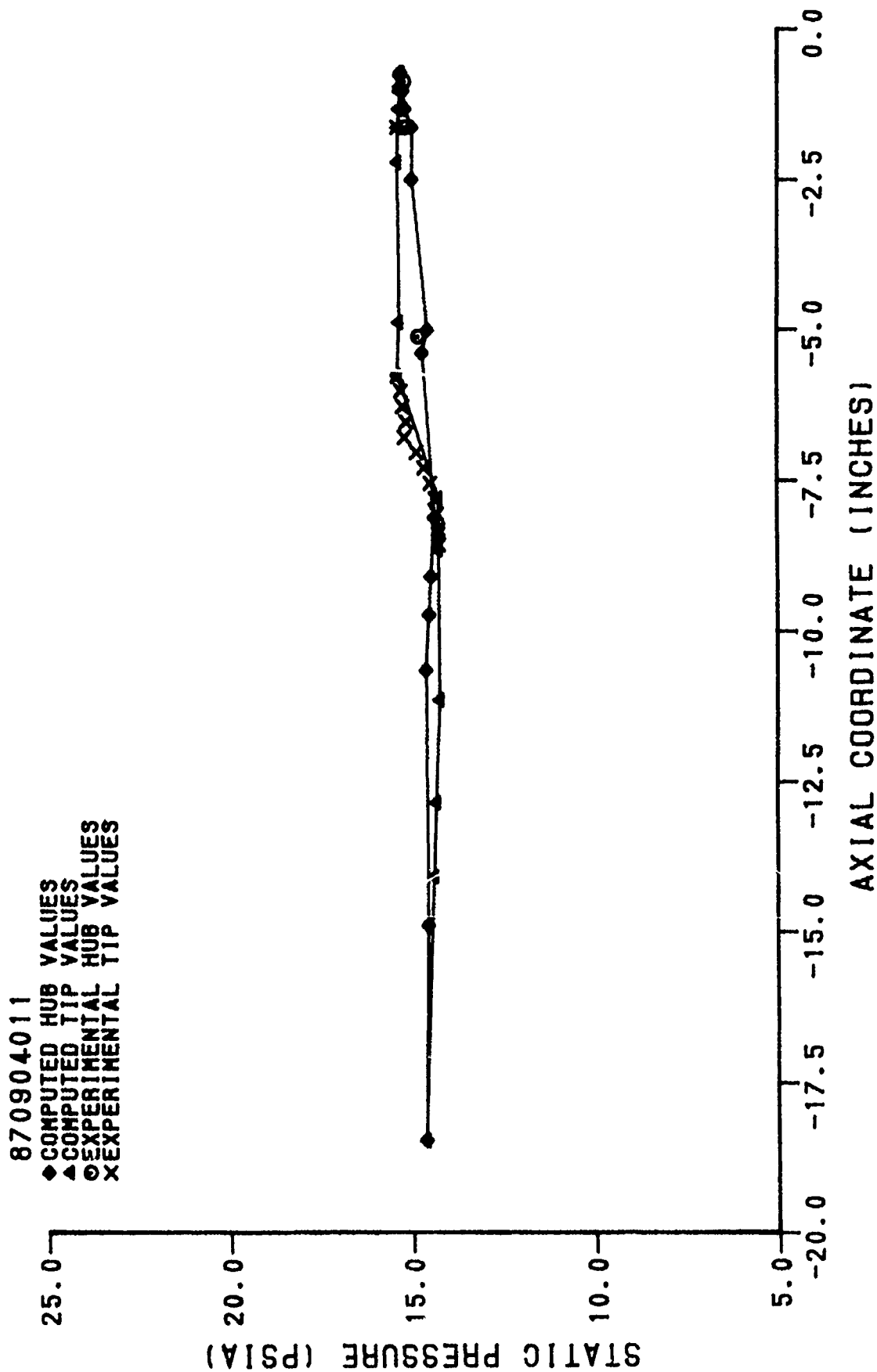


Figure 103. Static Pressure Distribution (870904011)

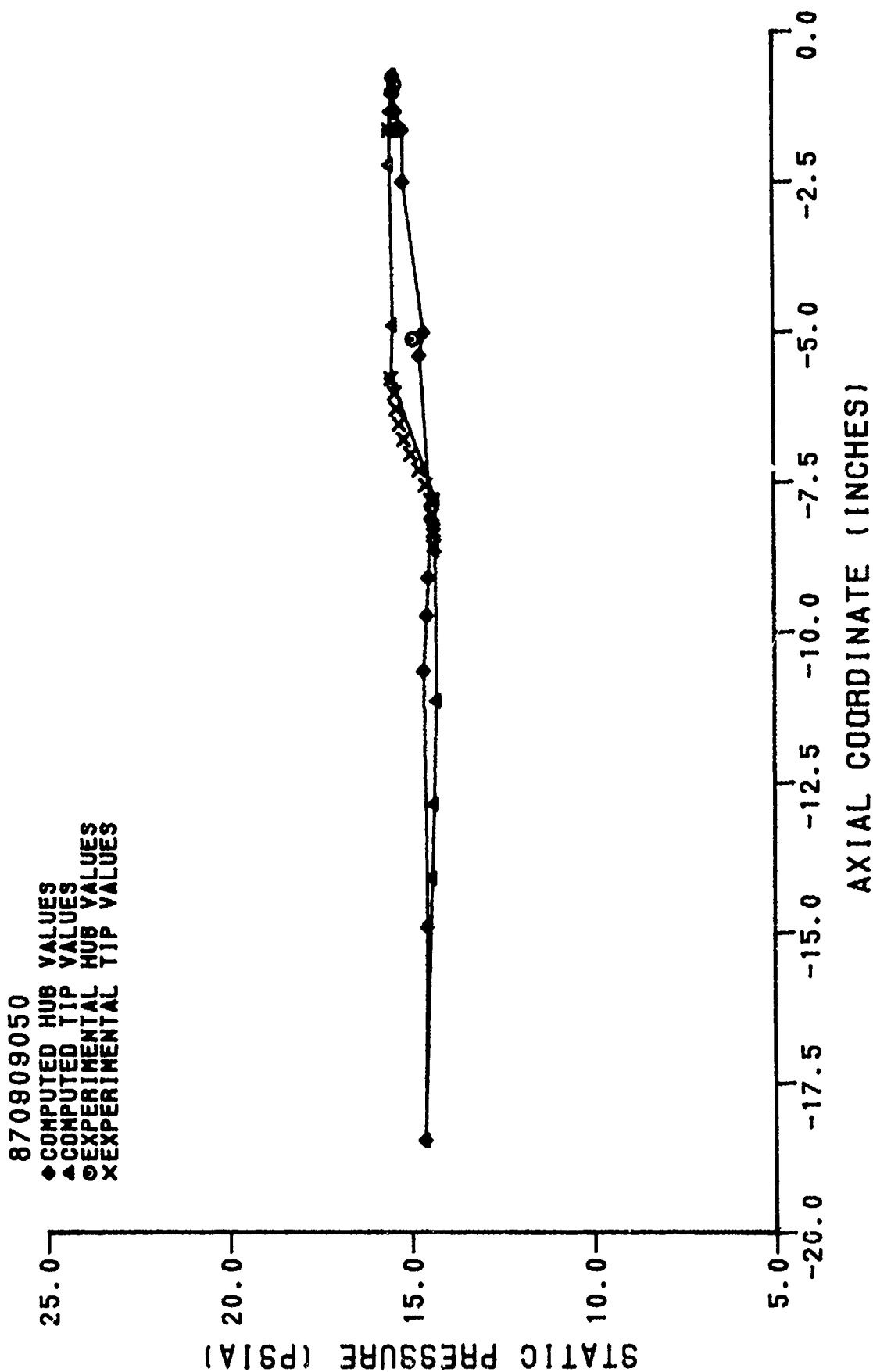


Figure 104. Static Pressure Distribution (870909050)

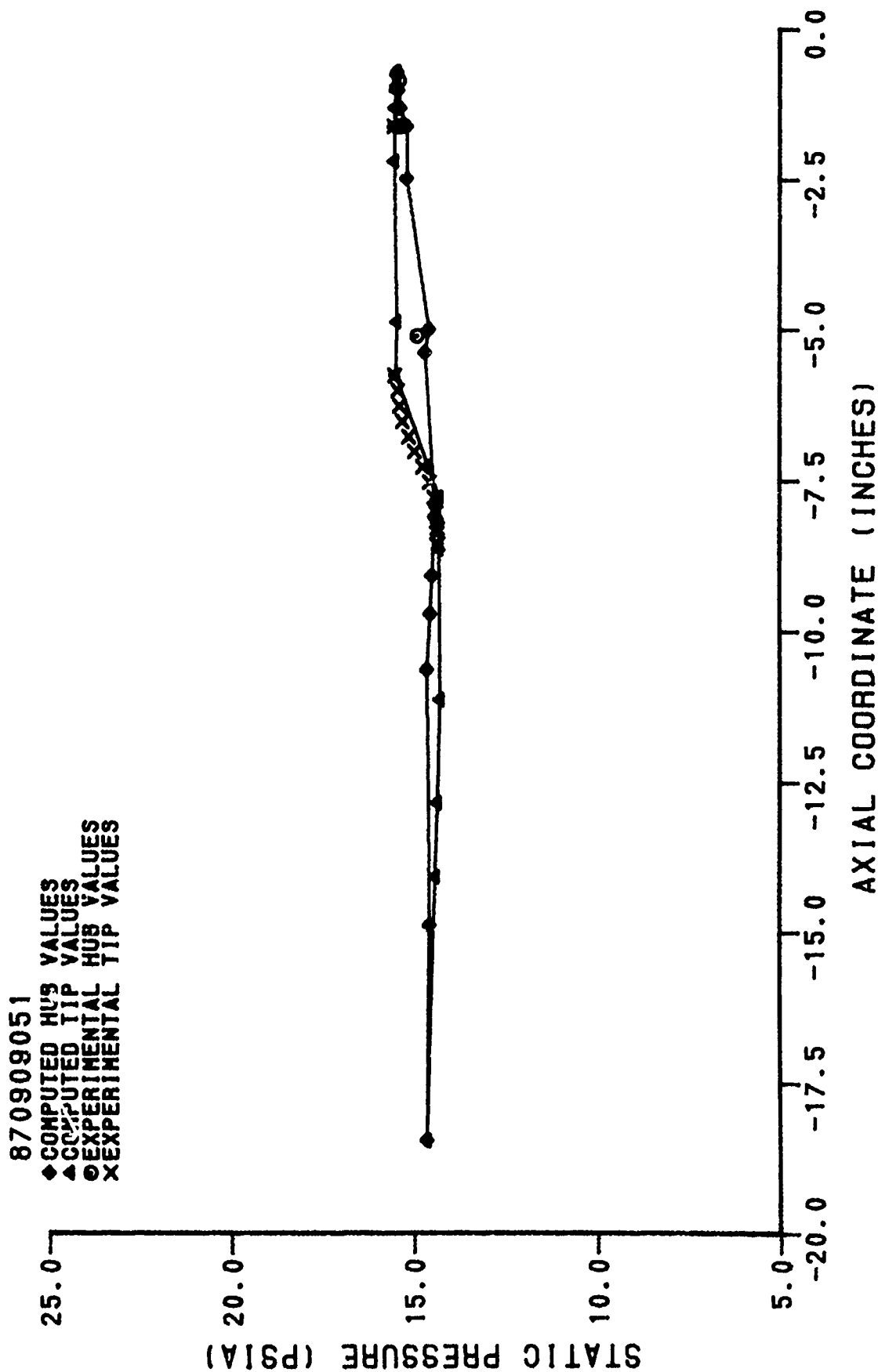


Figure 105. Static Pressure Distribution (870909051)

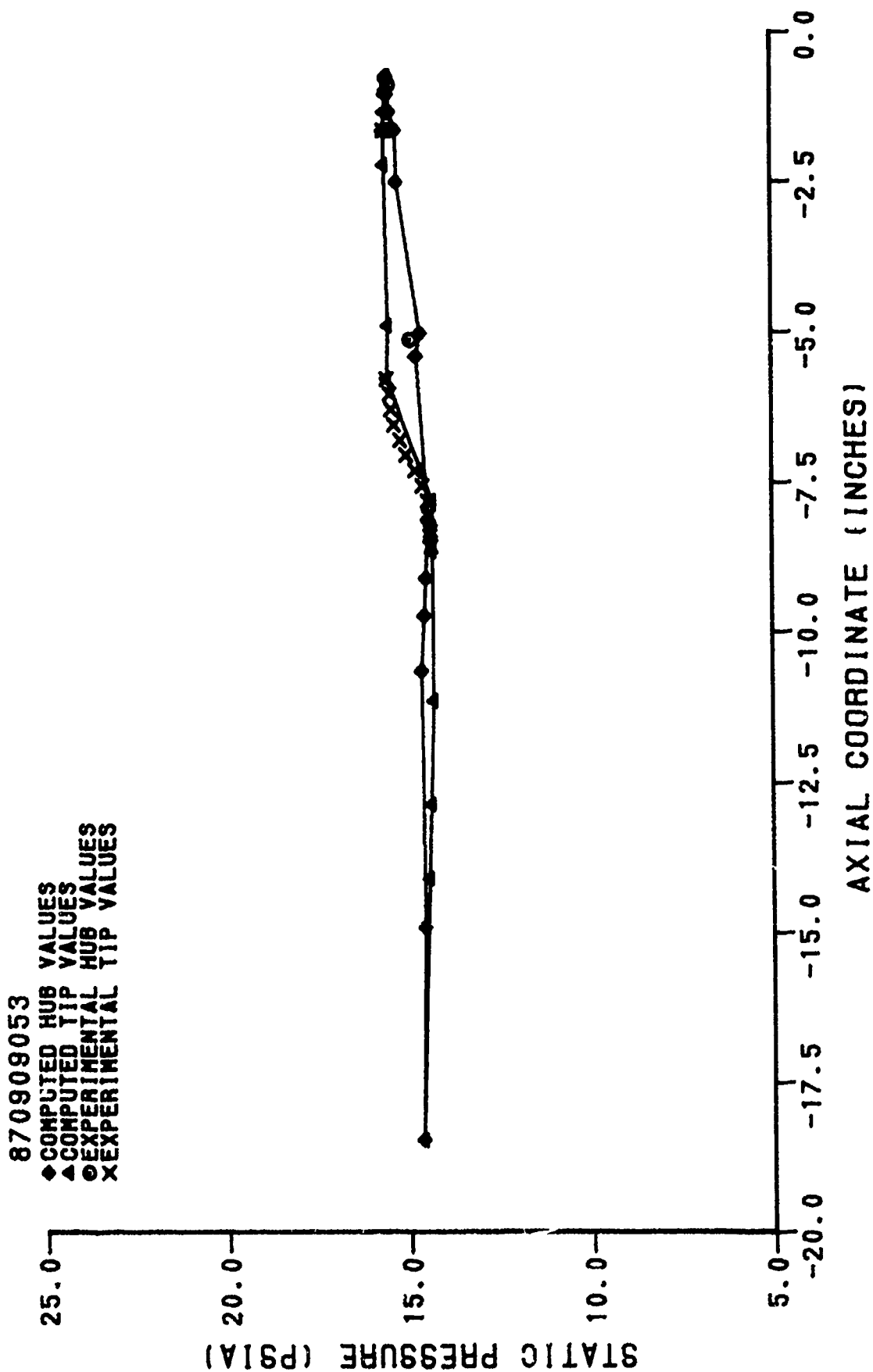


Figure 106. Static Pressure Distribution (870909053)

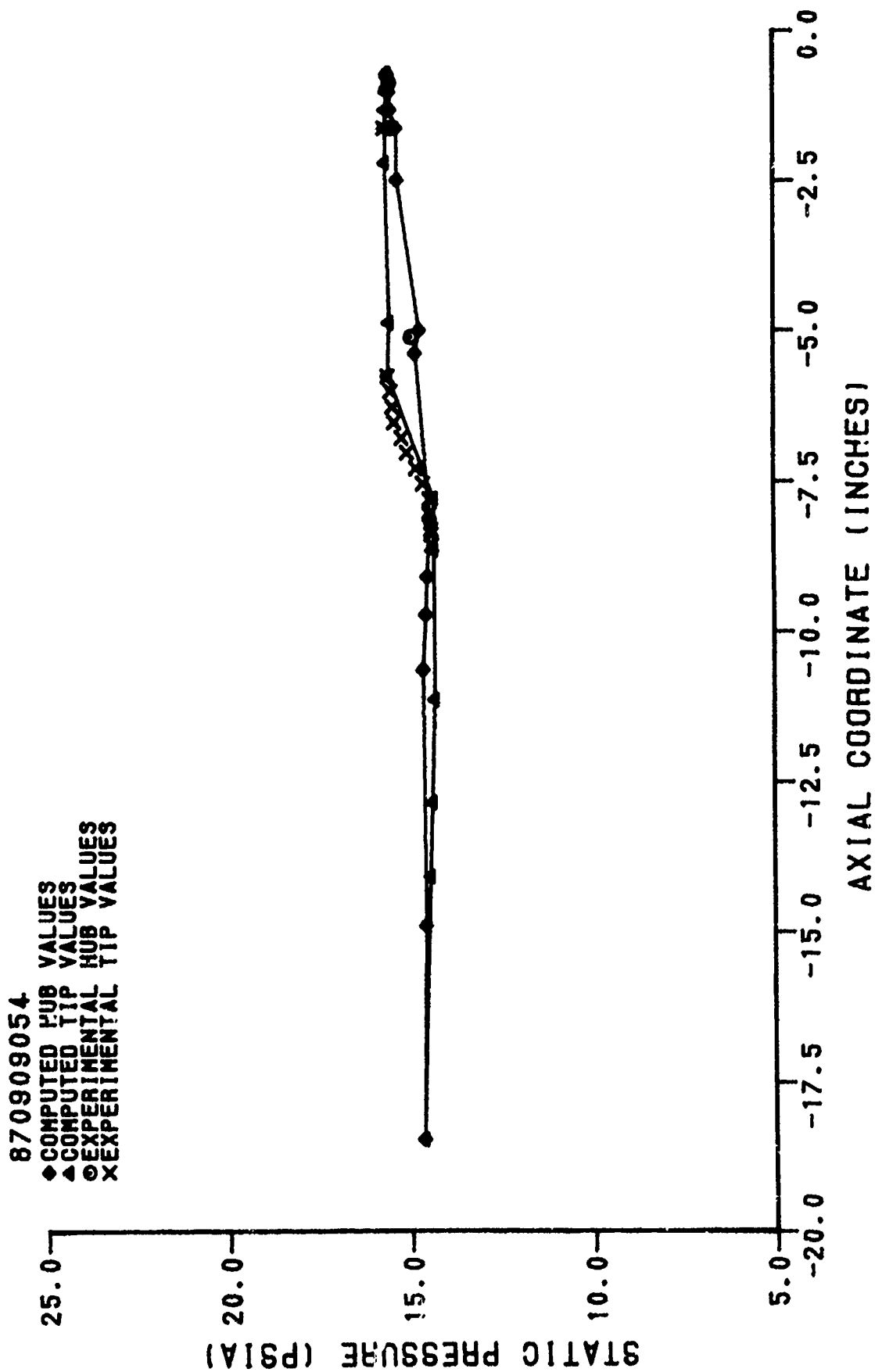


Figure 107. Static Pressure Distribution (870909054)

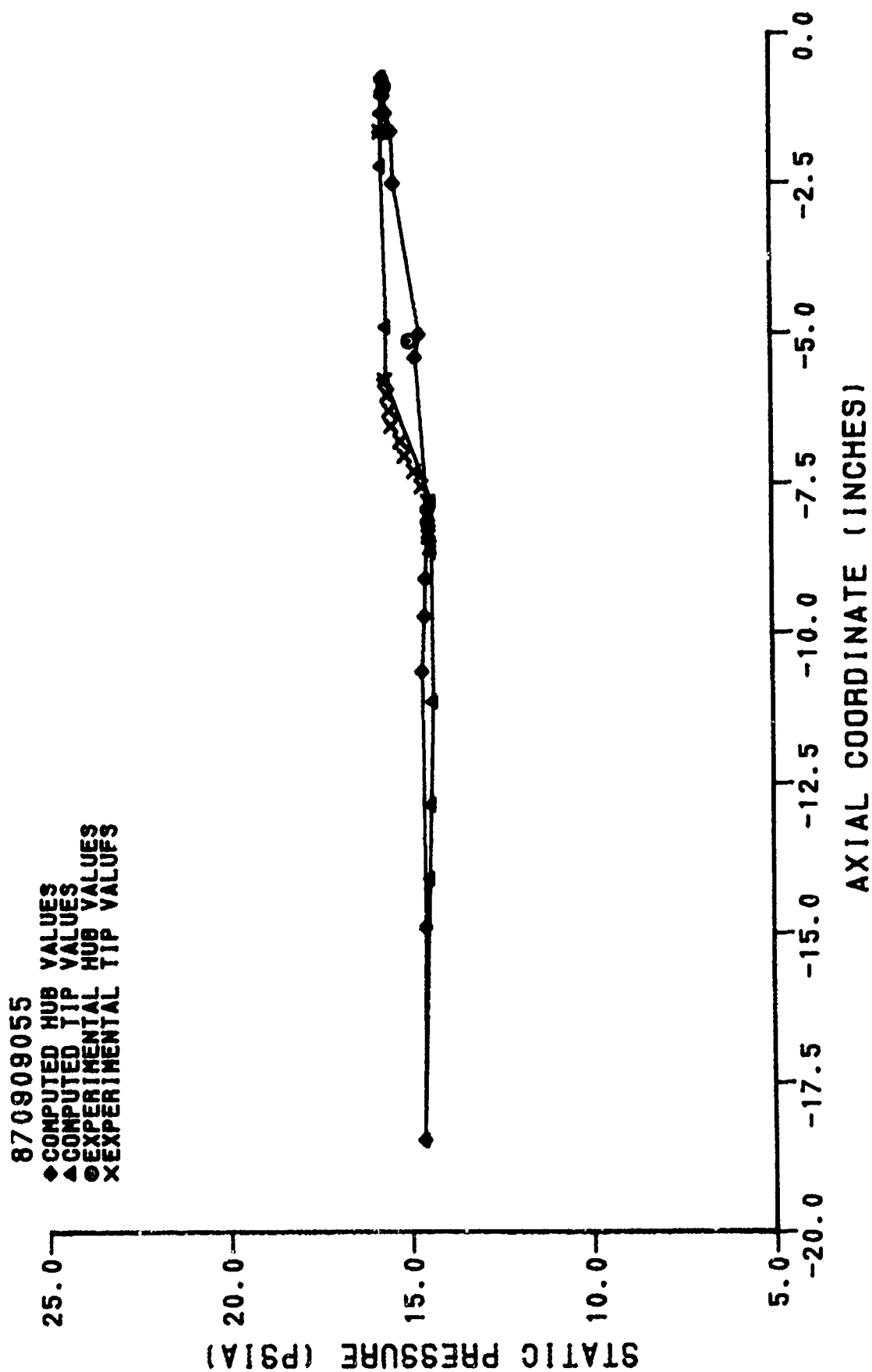


Figure 108. Static Pressure Distribution (870909055)

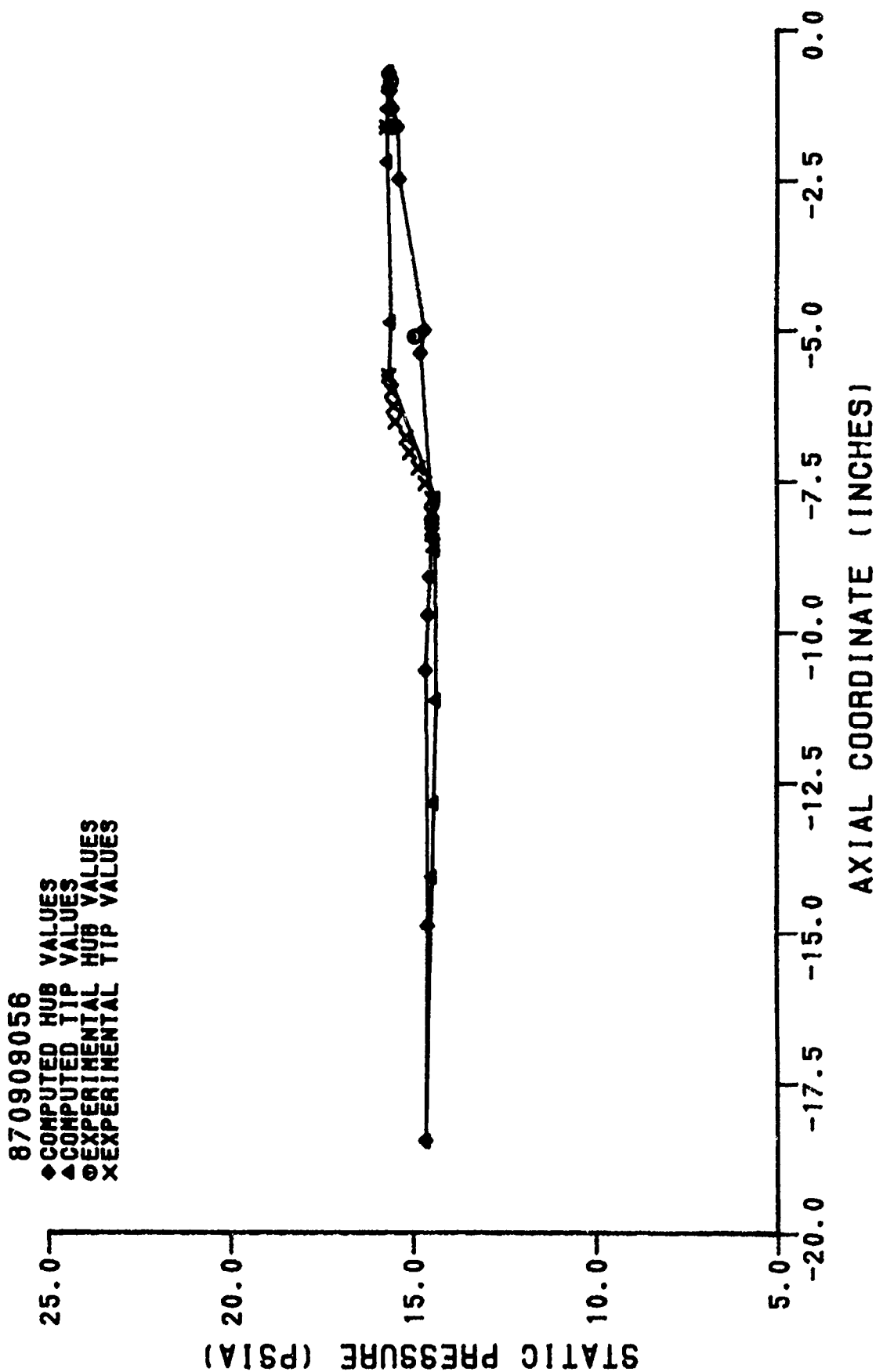


Figure 109. Static Pressure Distribution (870909056)

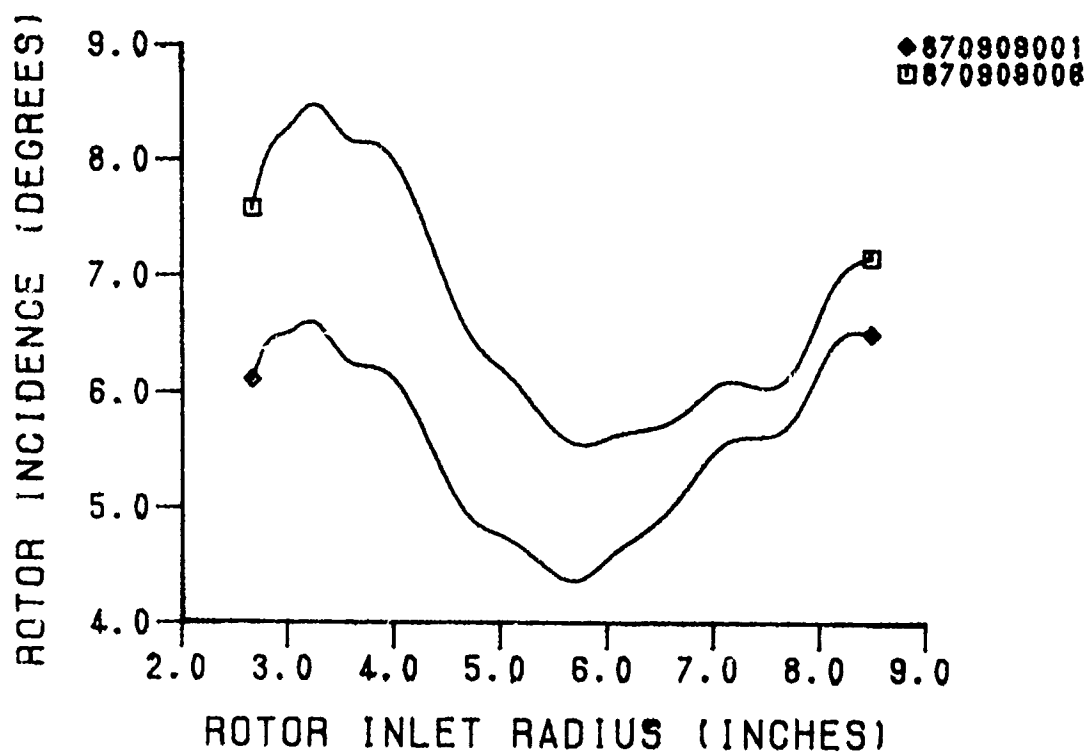


Figure 110. Rotor Incidence Angle (Thru-Blade)

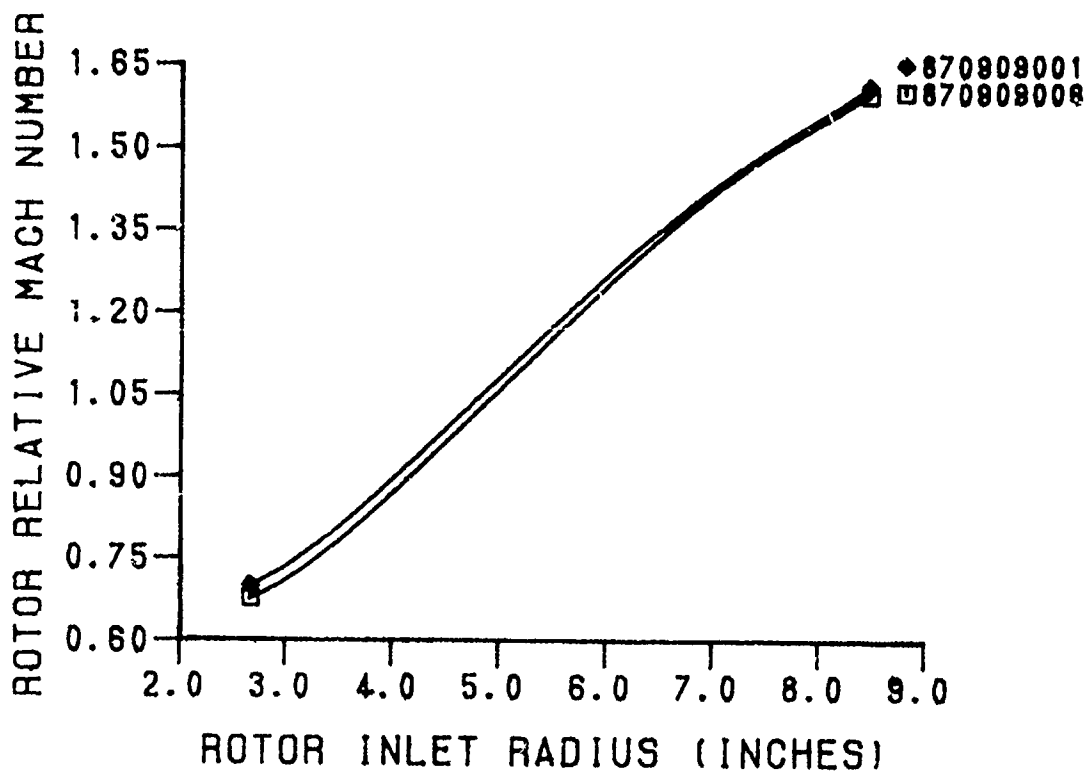


Figure 111. Rotor Relative Inlet Mach Number (Thru-Blade)

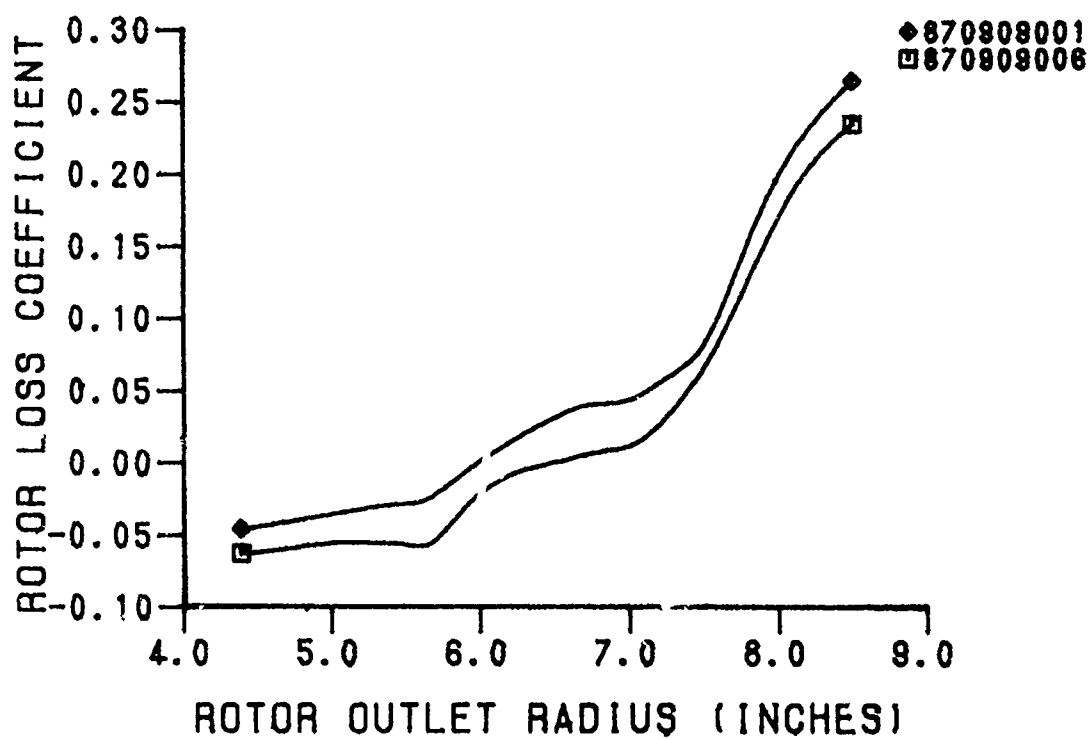


Figure 112. Rotor Loss Coefficient (Thru-Blade)

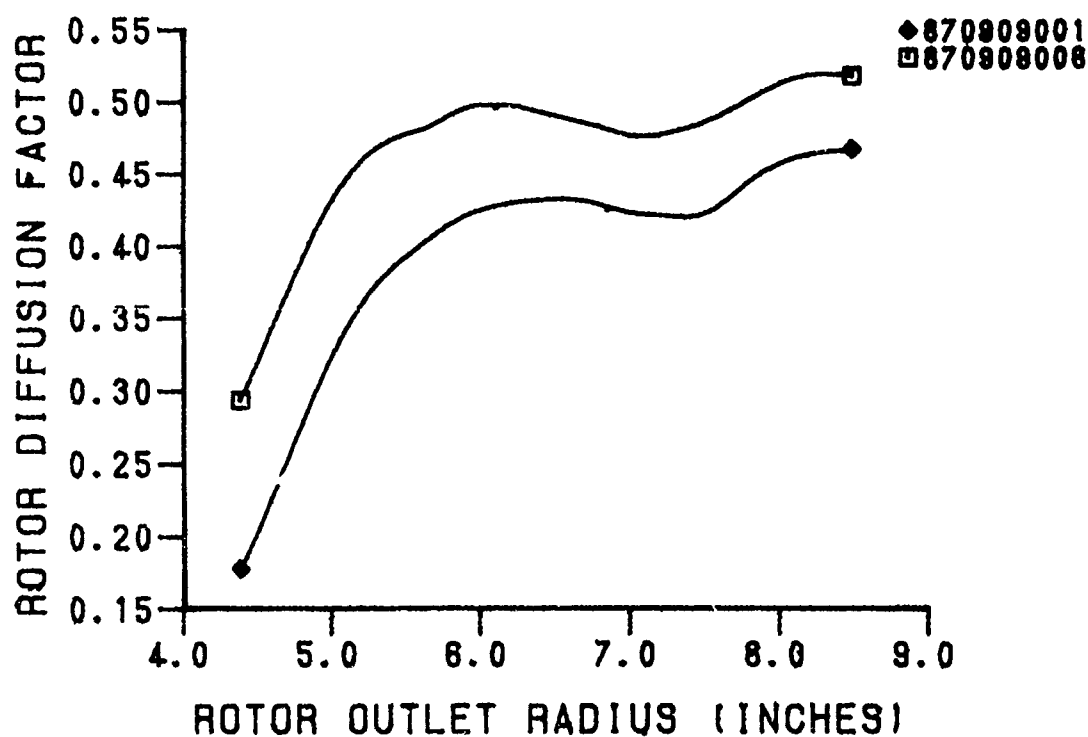


Figure 113. Rotor Diffusion Factor (Thru-Blade)

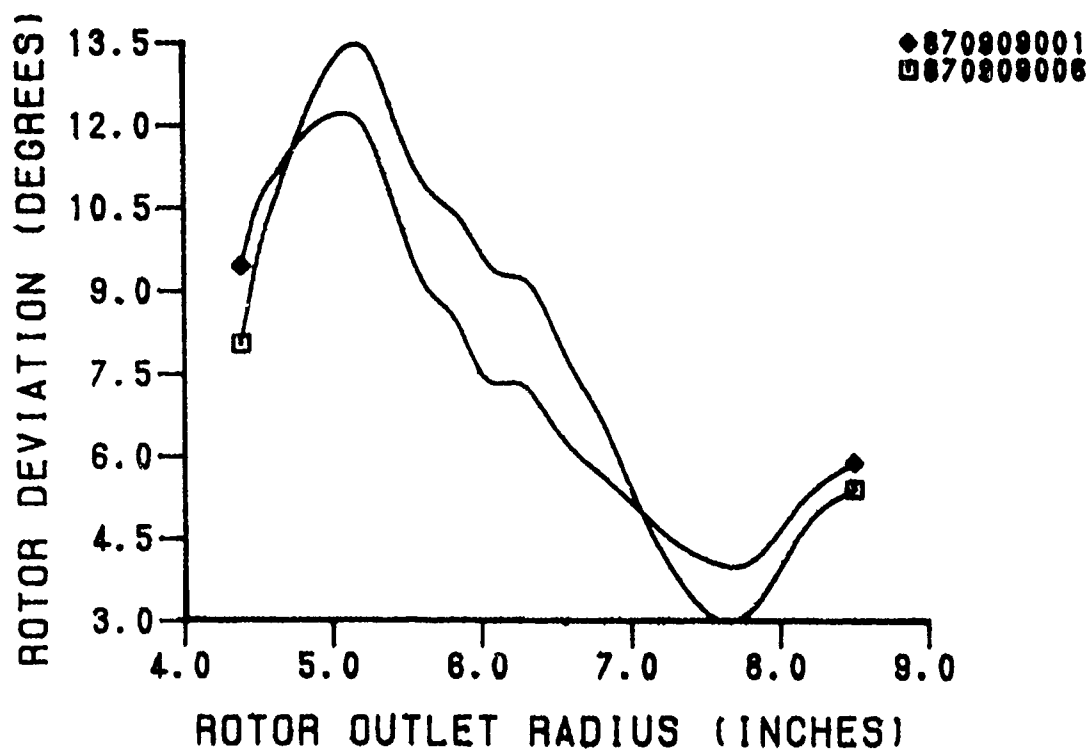


Figure 114. Rotor Deviation Angle (Thru-Blade)

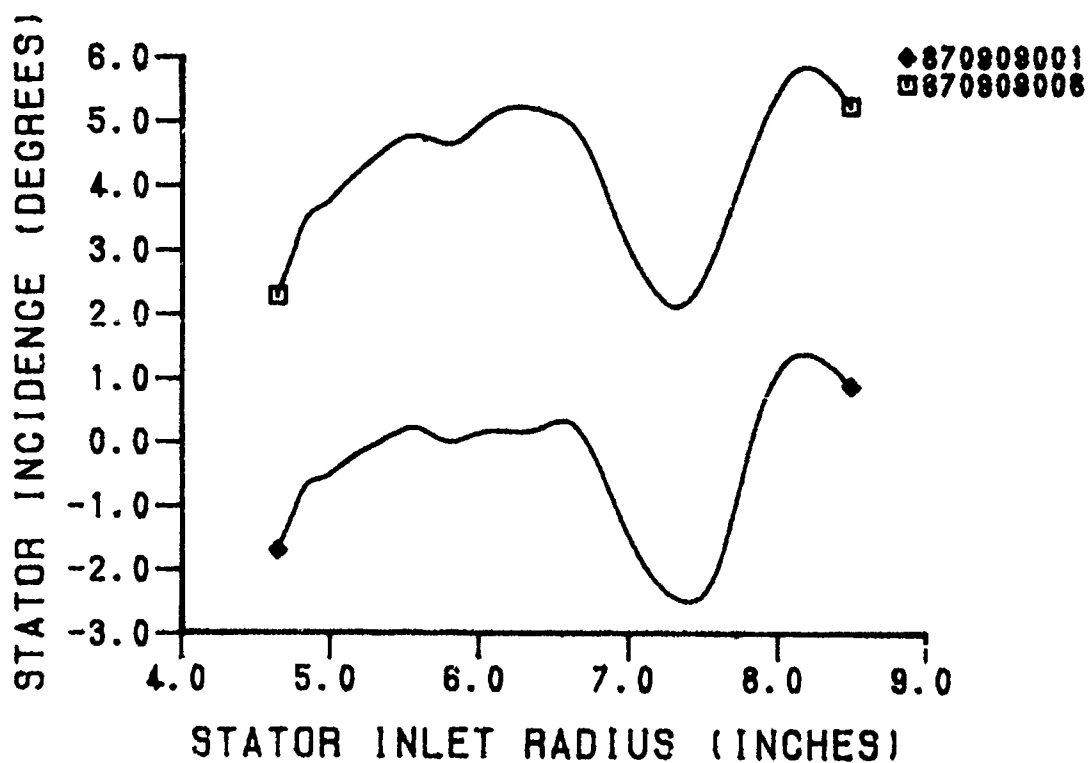


Figure 115. Stator Incidence Angle (Thru-Blade)

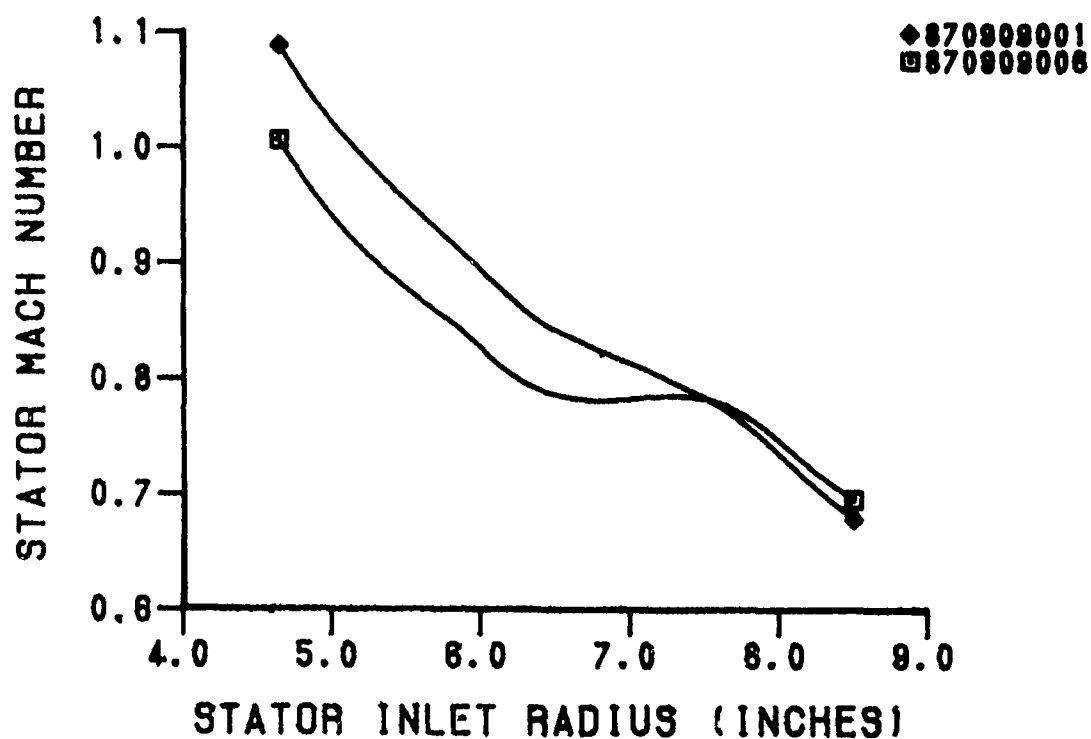


Figure 116. Stator Absolute Inlet Mach Number (Thru-Blade)

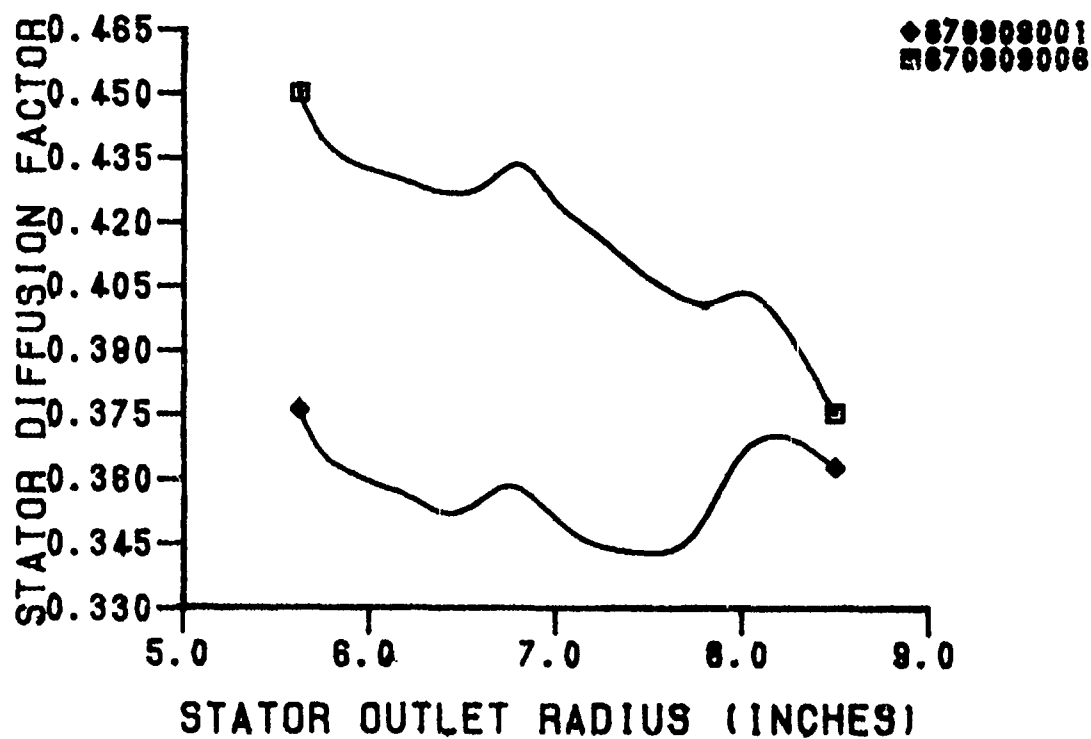


Figure 117. Stator Diffusion Factor (Thru-Blade)

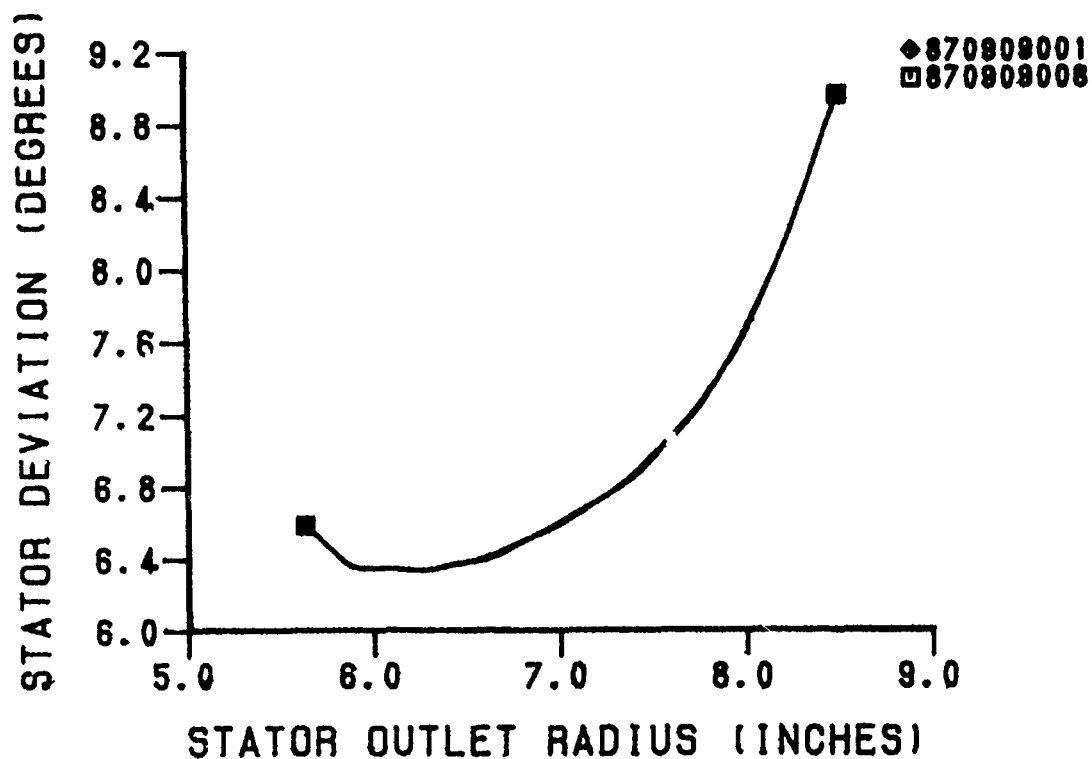


Figure 118. Stator Deviation Angle (Thru-Blade)

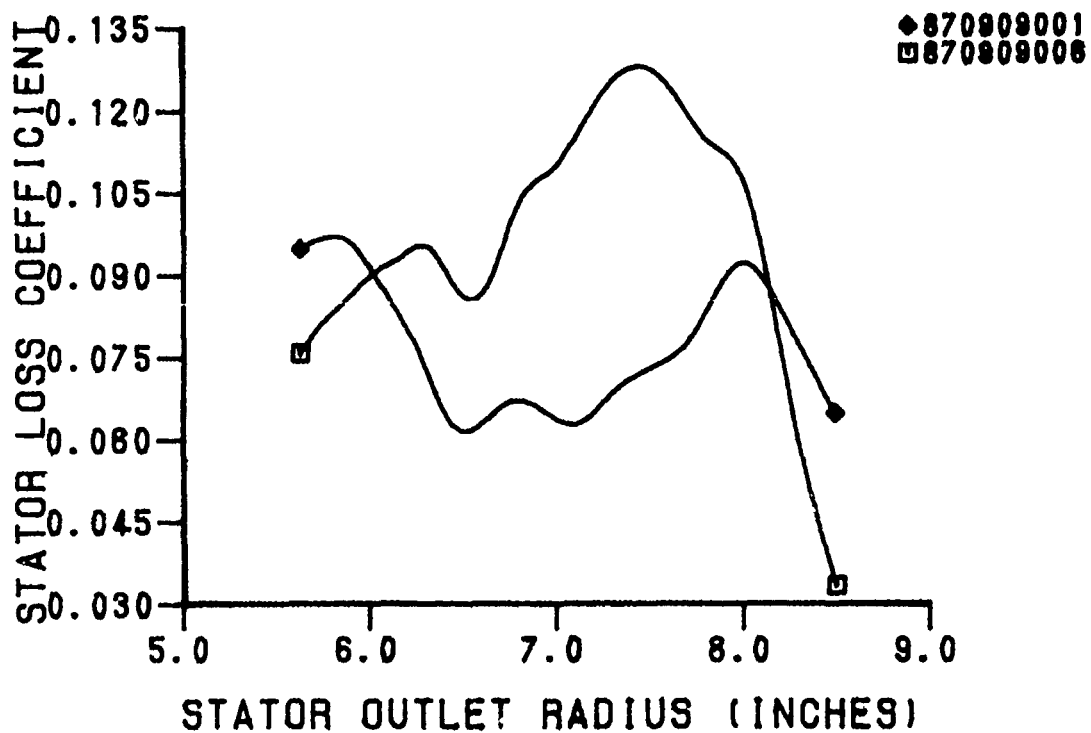


Figure 119. Stator Loss Coefficient (Thru-Blade)

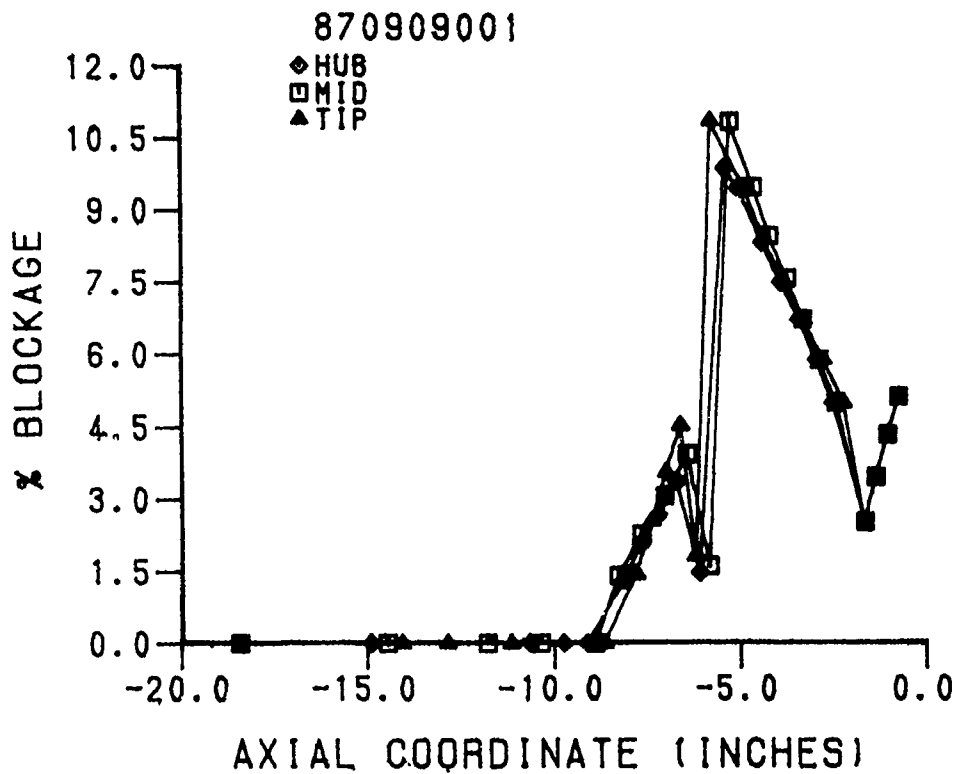


Figure 120. Wake/Bloundary Layer Blockage Distribution (Thru-Blade/870909001)

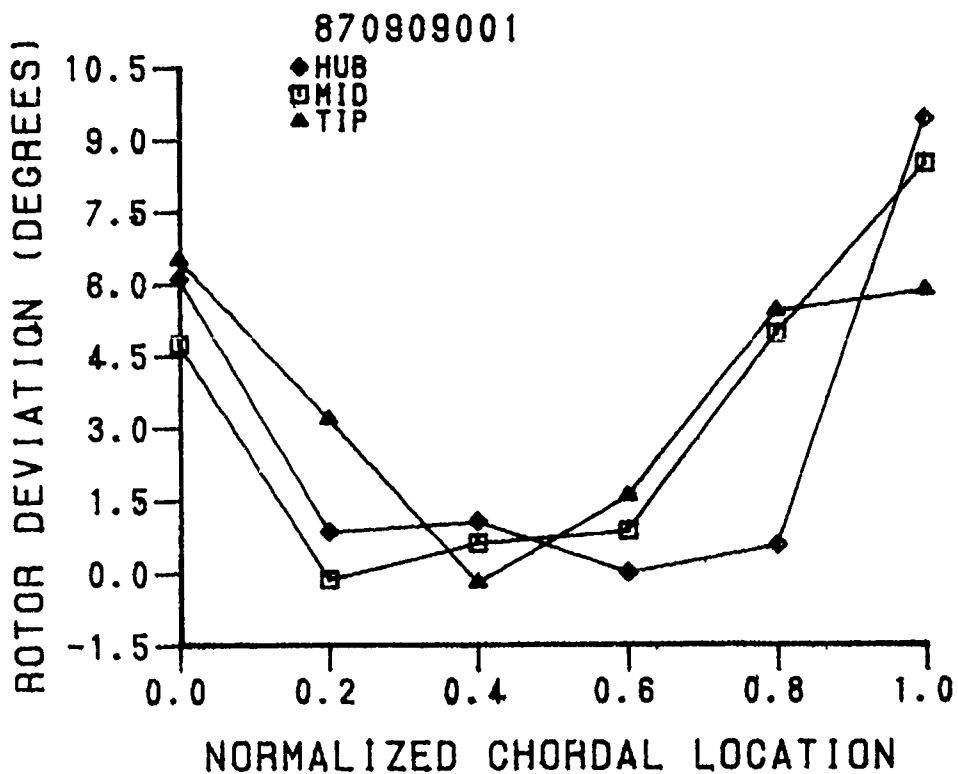


Figure 121. Chordal Distribution of Deviation (Thru-Blade/870909001)

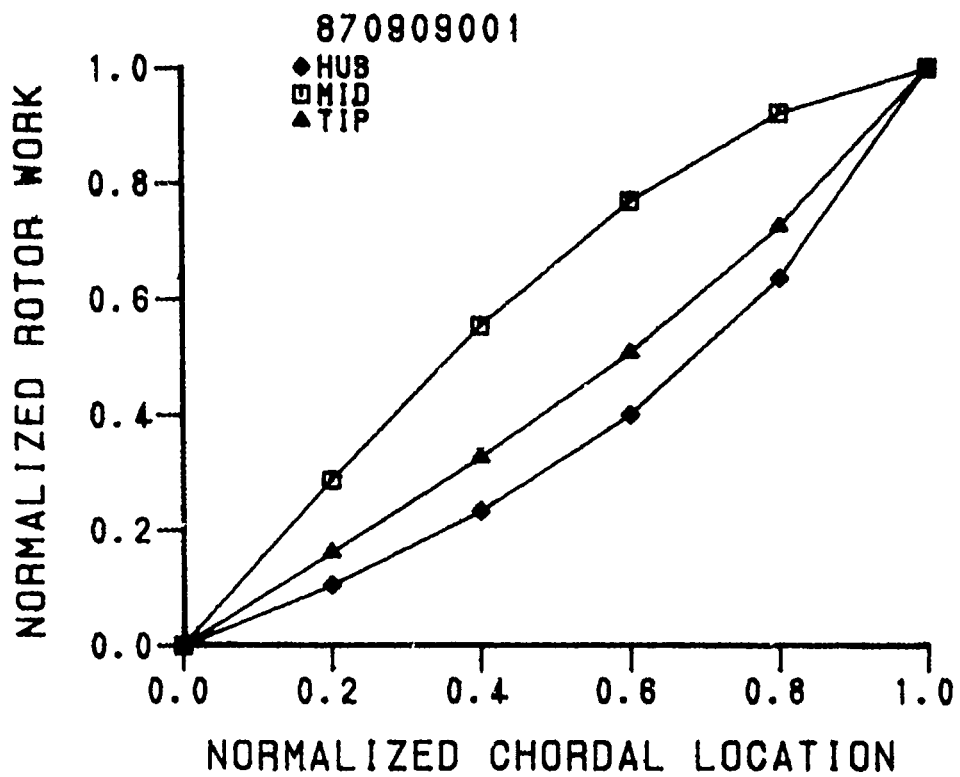


Figure 122. Chordal Distribution of Work
(Thru-Blade/870909001)

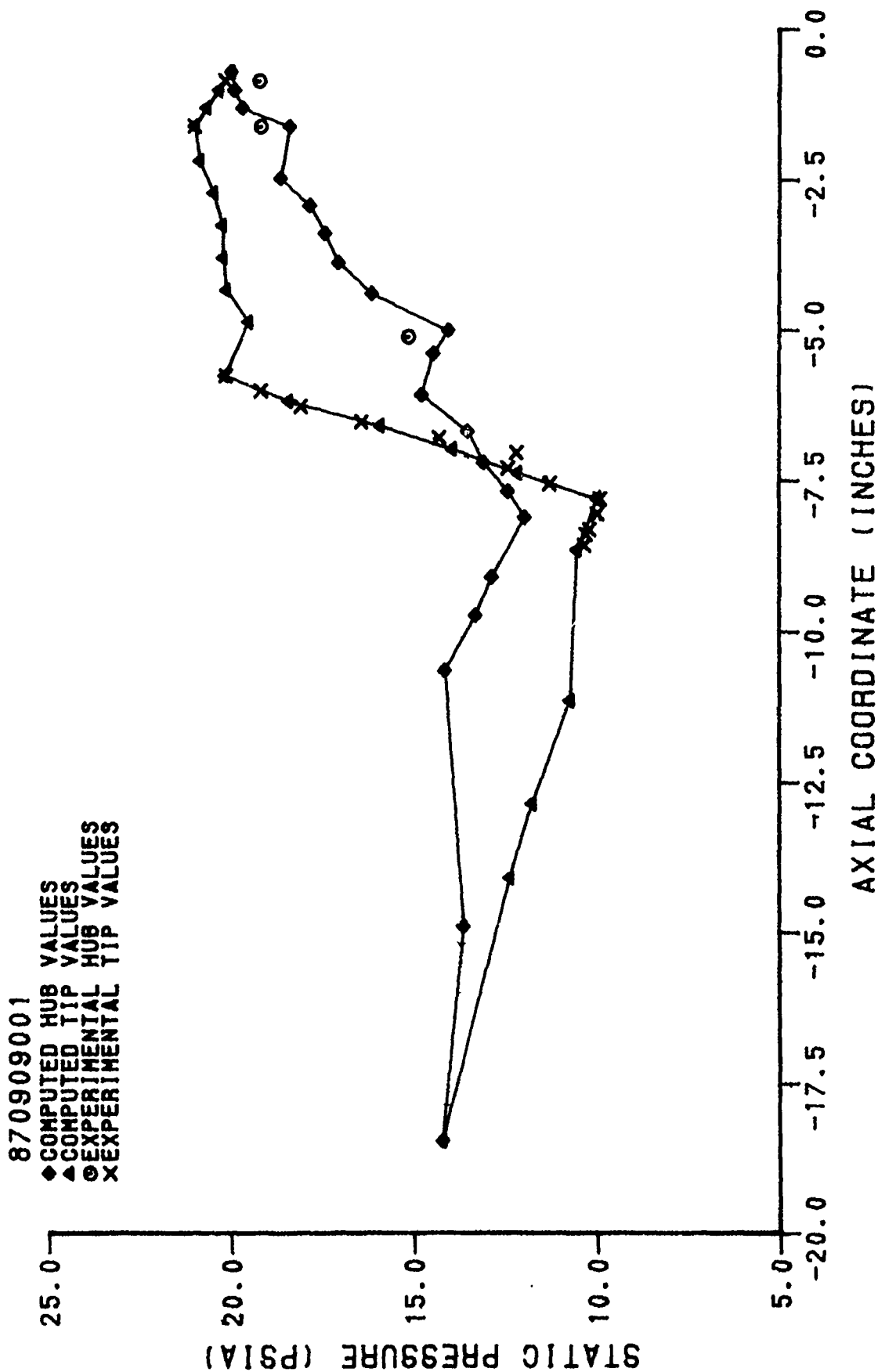


Figure 123. Static Pressure Distribution
(Thru-Blade/870909001)

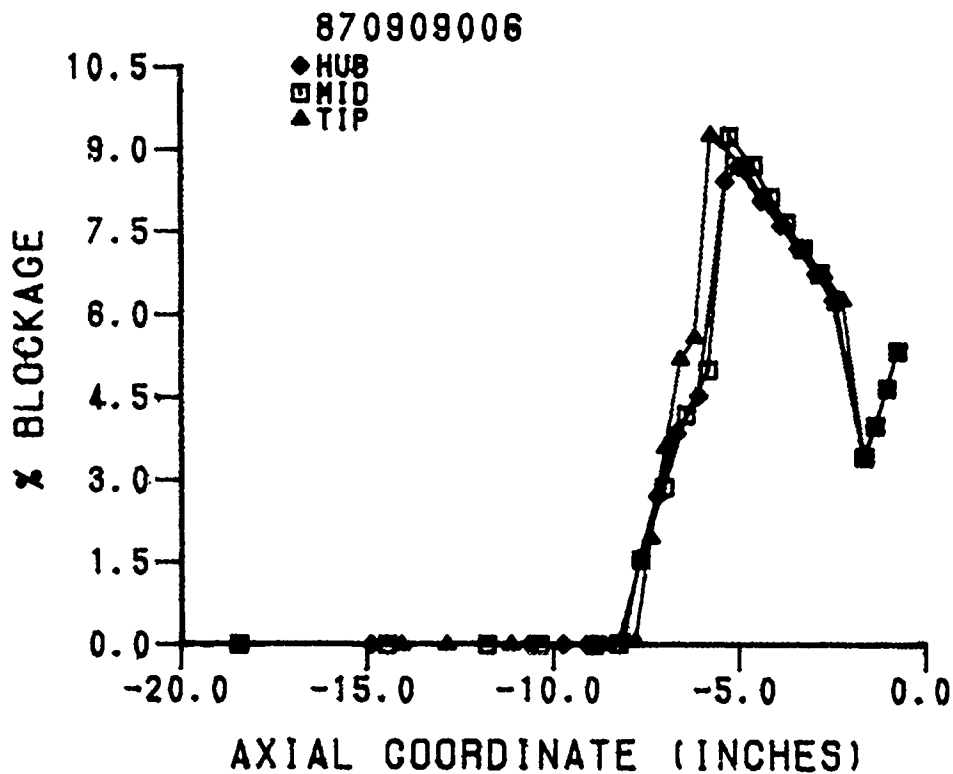


Figure 124. Wake/Bloundary Layer Blockage Distribution (Thru-Blade/870909006)

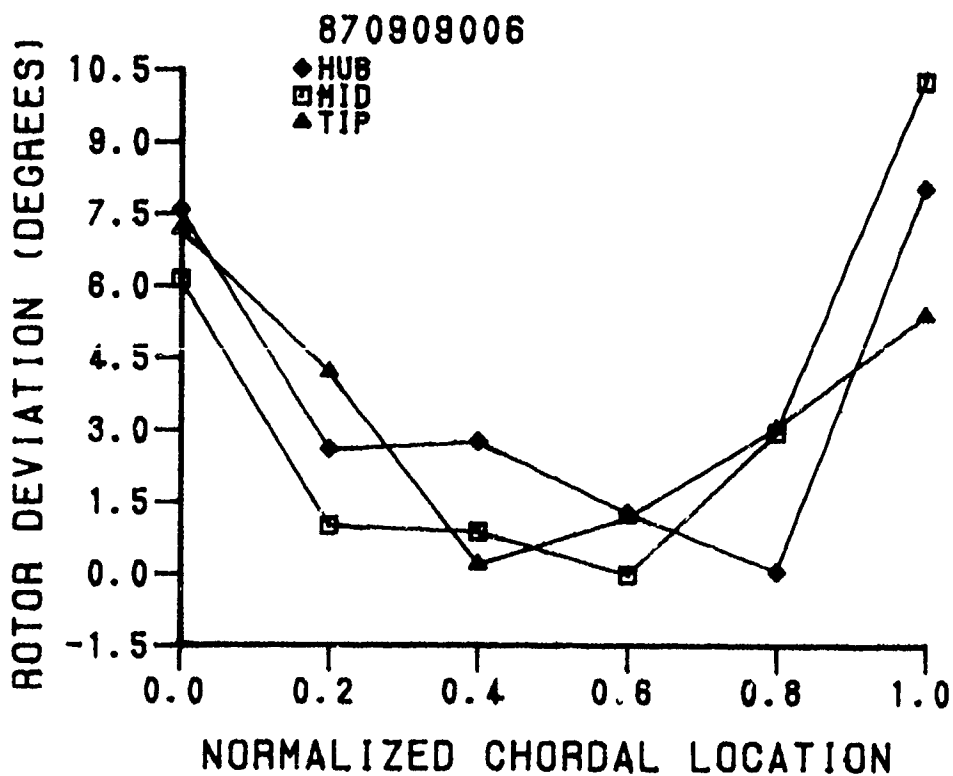


Figure 125. Chordal Distribution of Deviation (Thru-Blade/870909006)

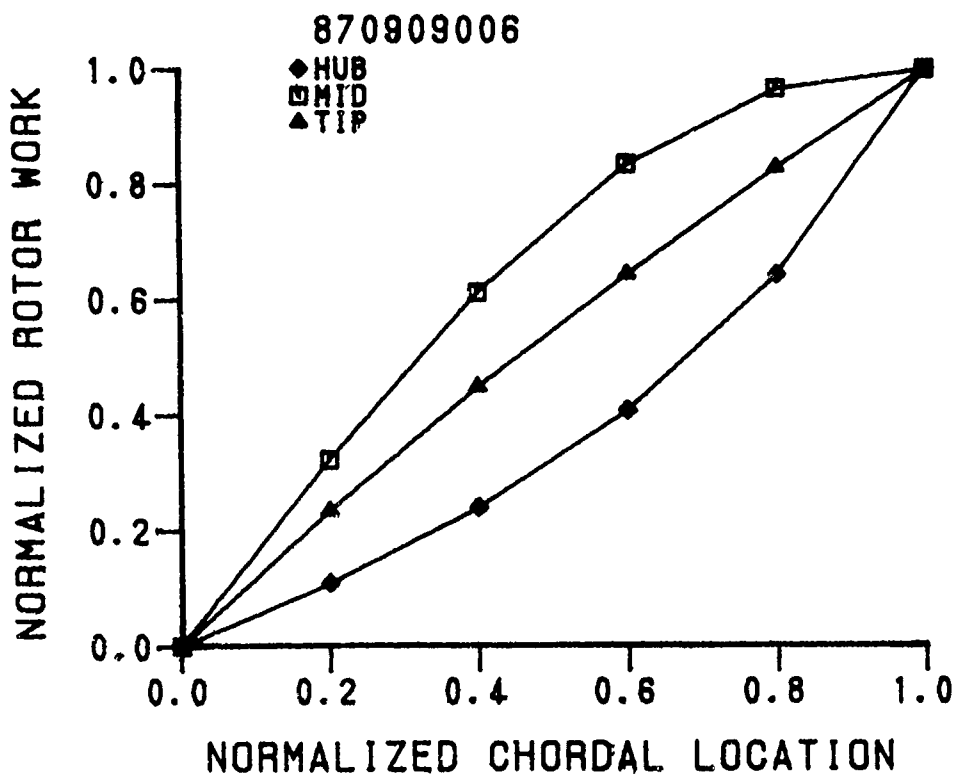


Figure 126. Chordal Distribution of Work
(Thru-Blade/870909006)

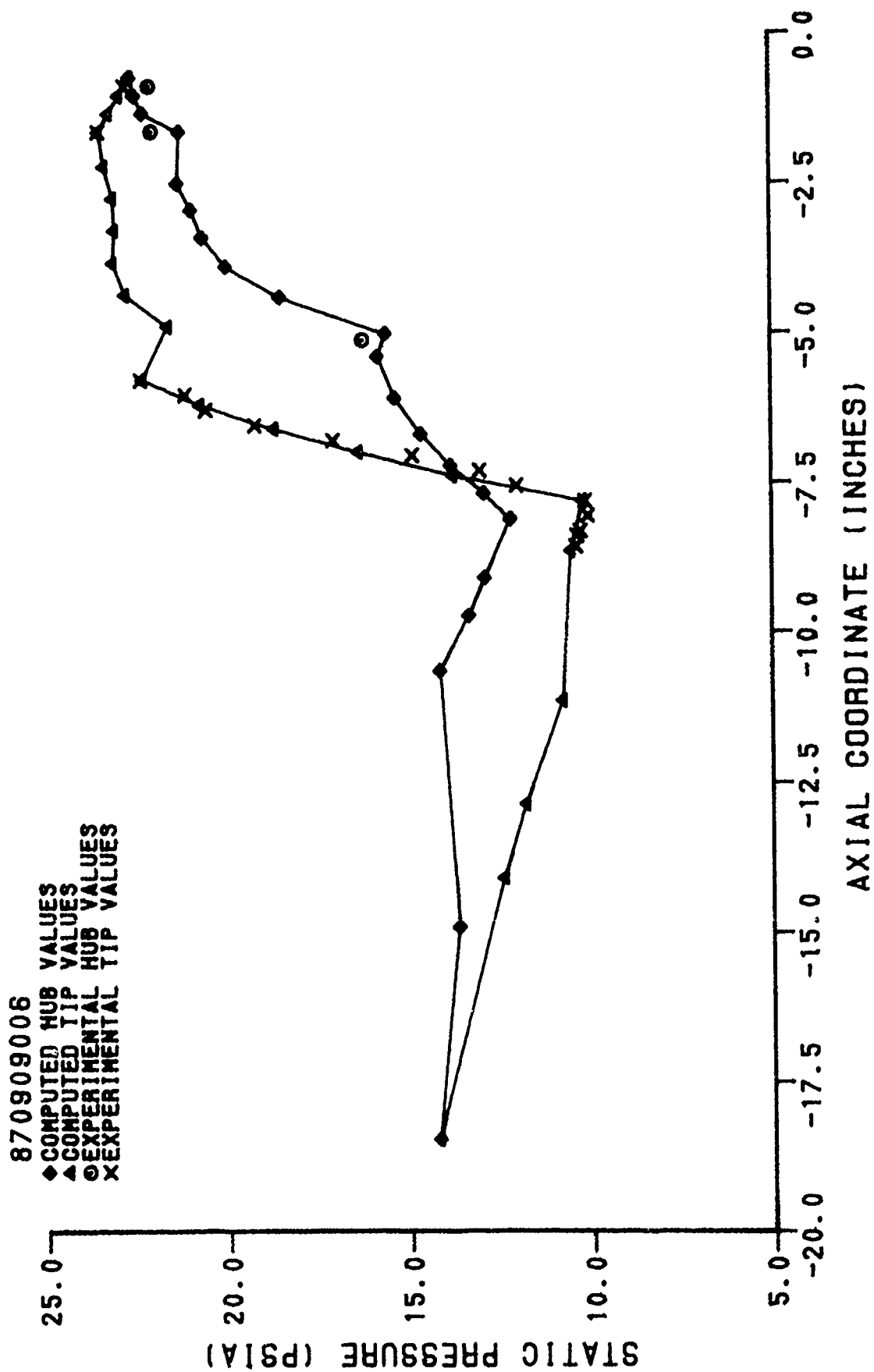


Figure 127. Static Pressure Distribution
(Thru-Blade/870909006)

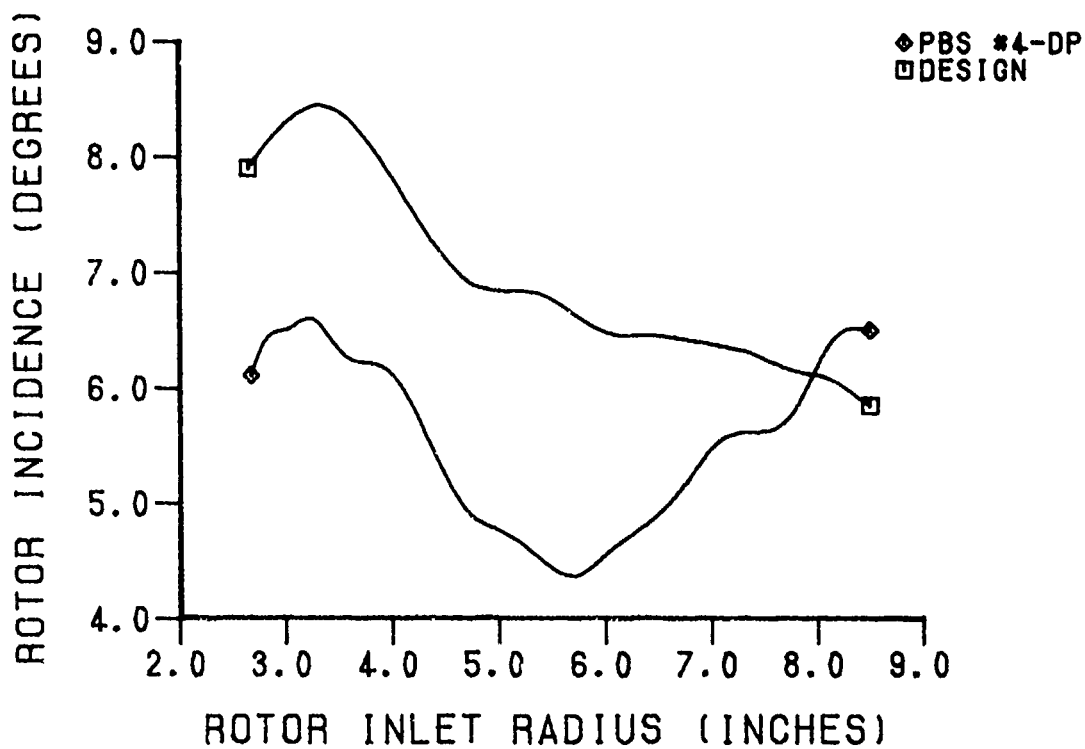


Figure 128. Comparison of Rotor Incidence Design and Experimental Distributions

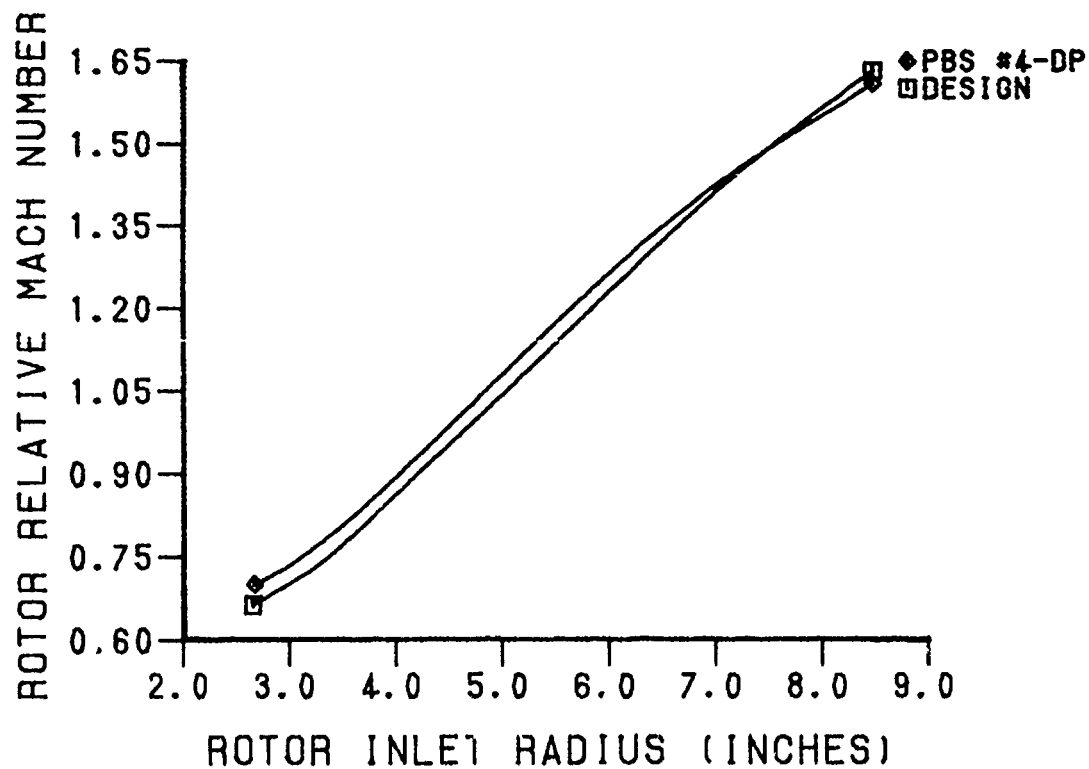


Figure 129. Comparison of Rotor Relative Inlet Mach Number Design and Experimental Distributions

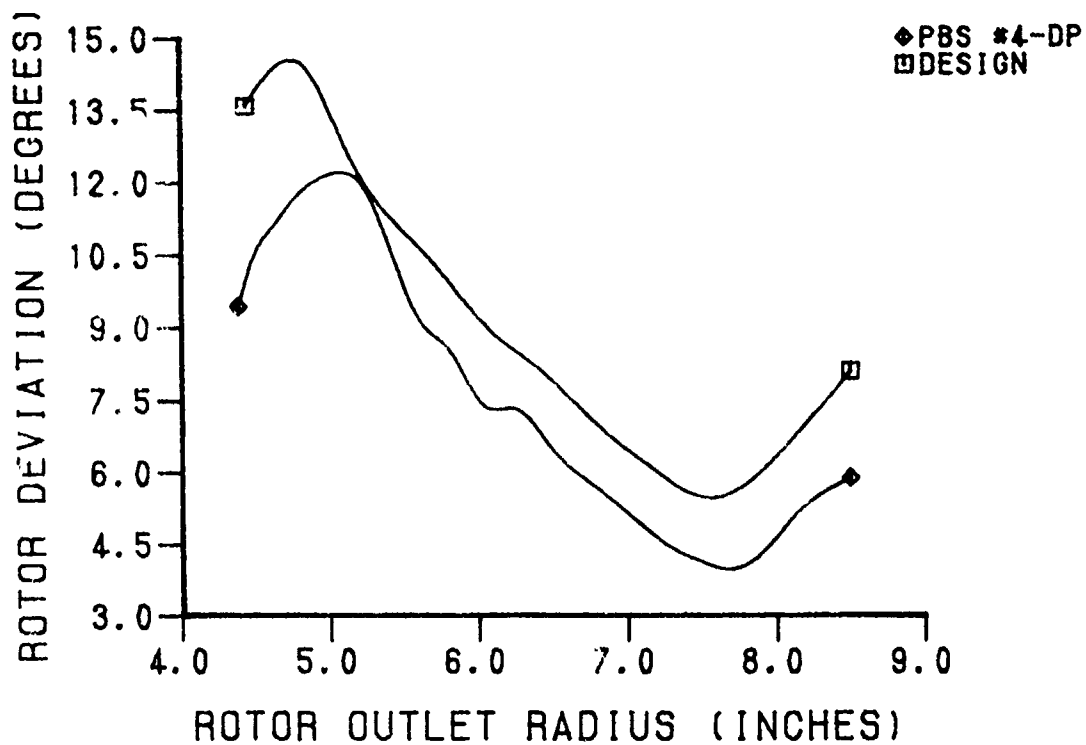


Figure 130. Comparison of Rotor Deviation Design and Experimental Distributions

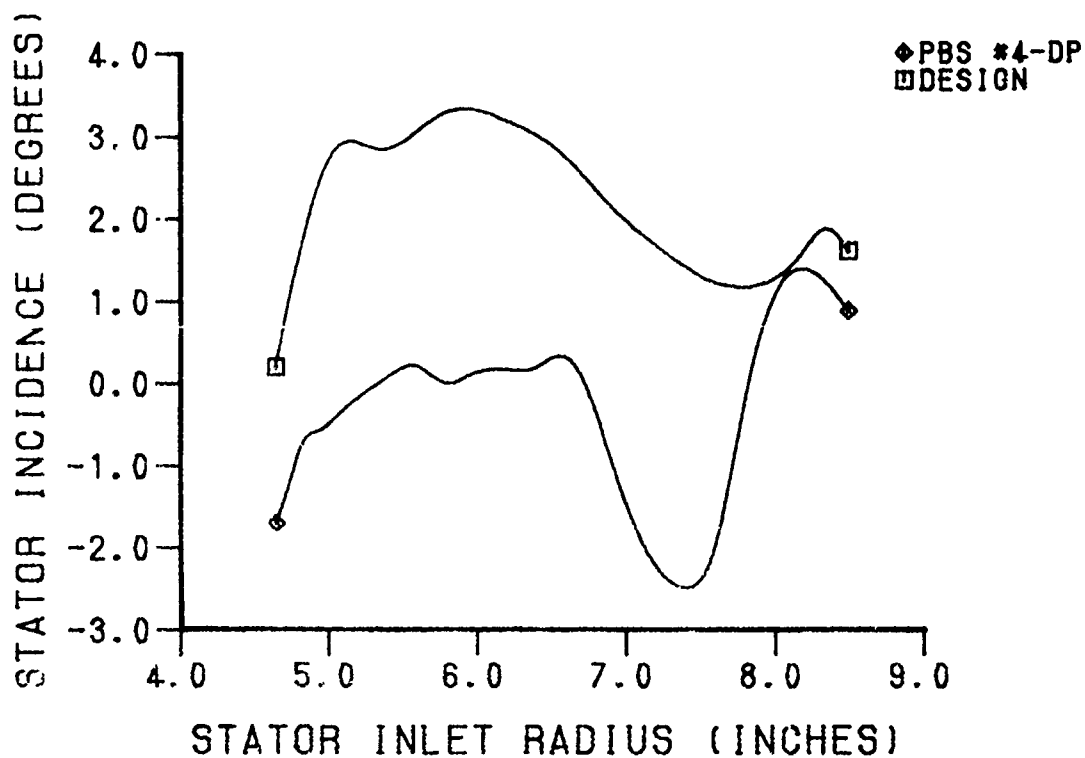


Figure 131. Comparison of Stator Incidence Design and Experimental Distributions

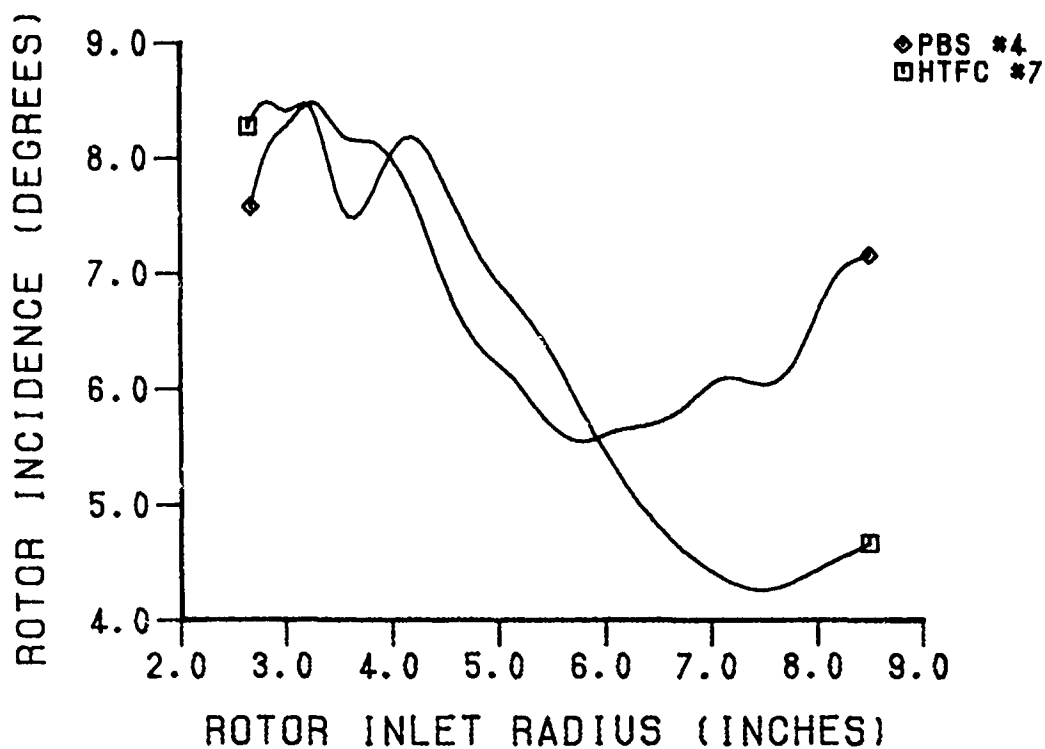


Figure 132. Rotor Incidence Angle (PBS #4 and Baseline)

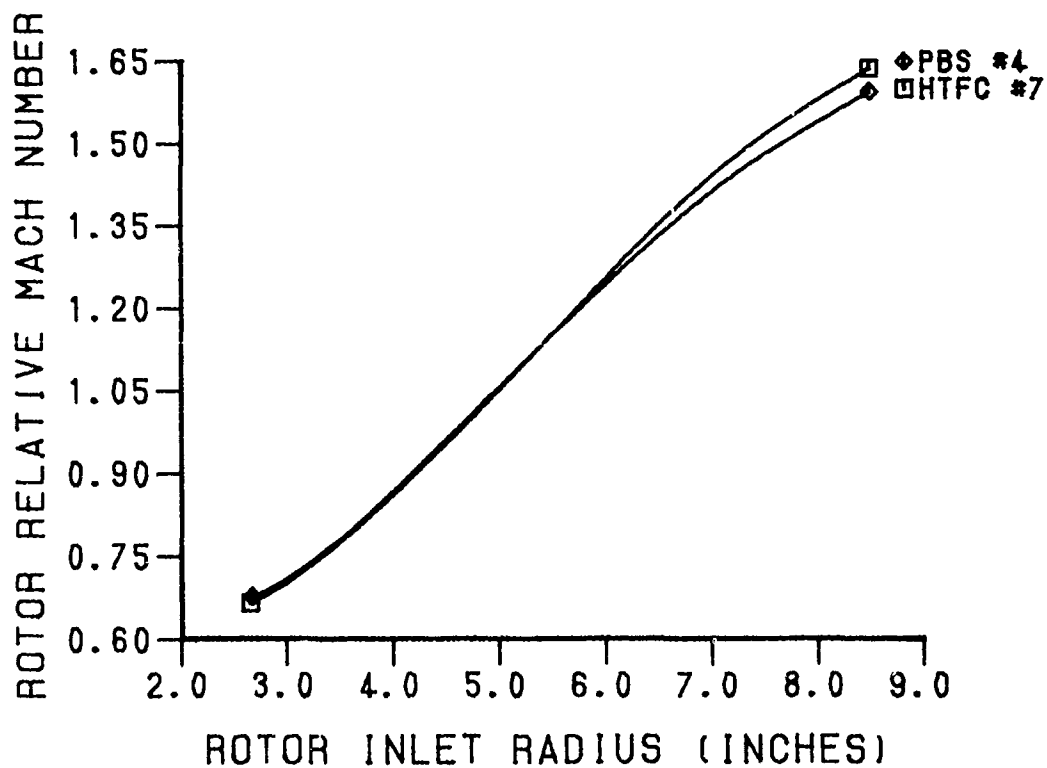


Figure 133. Rotor Relative Inlet Mach Number (PBS #4 and Baseline)

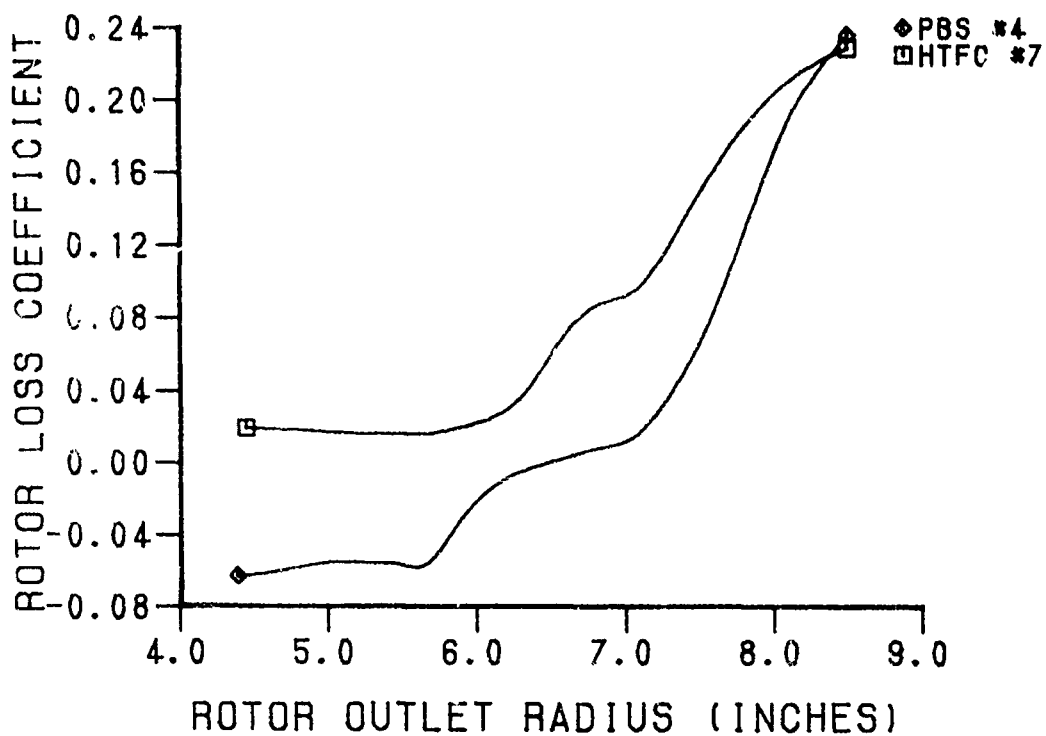


Figure 134. Rotor Loss Coefficient (PBS #4 and Baseline)

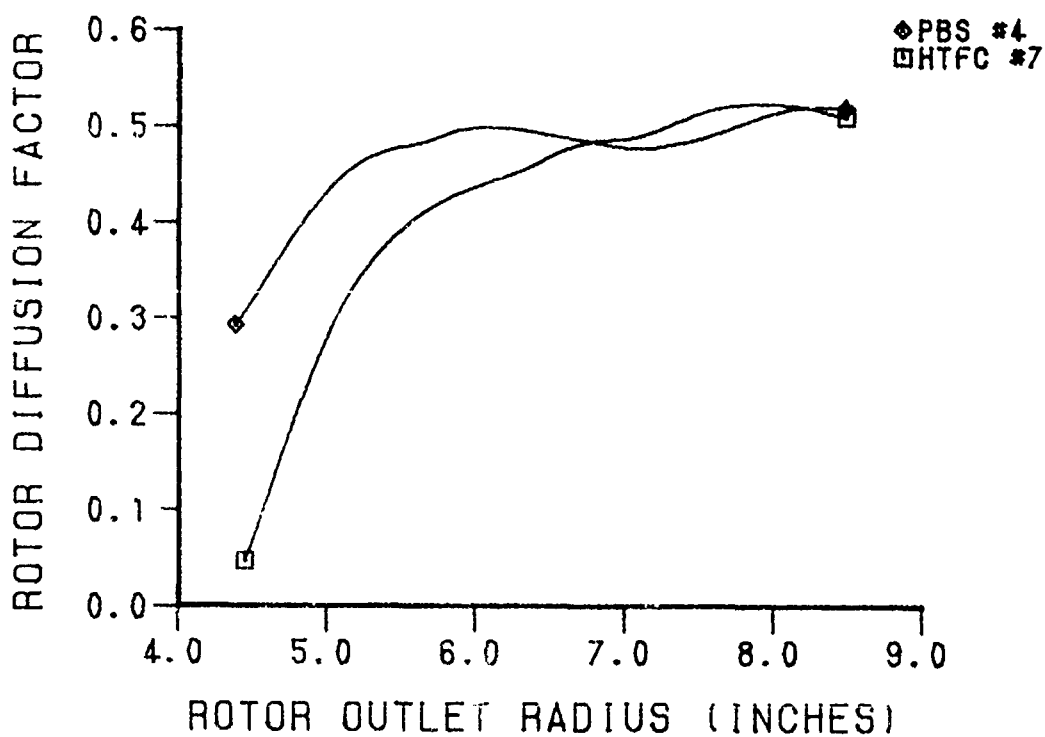


Figure 135. Rotor Diffusion Factor (PBS #4 and Baseline)

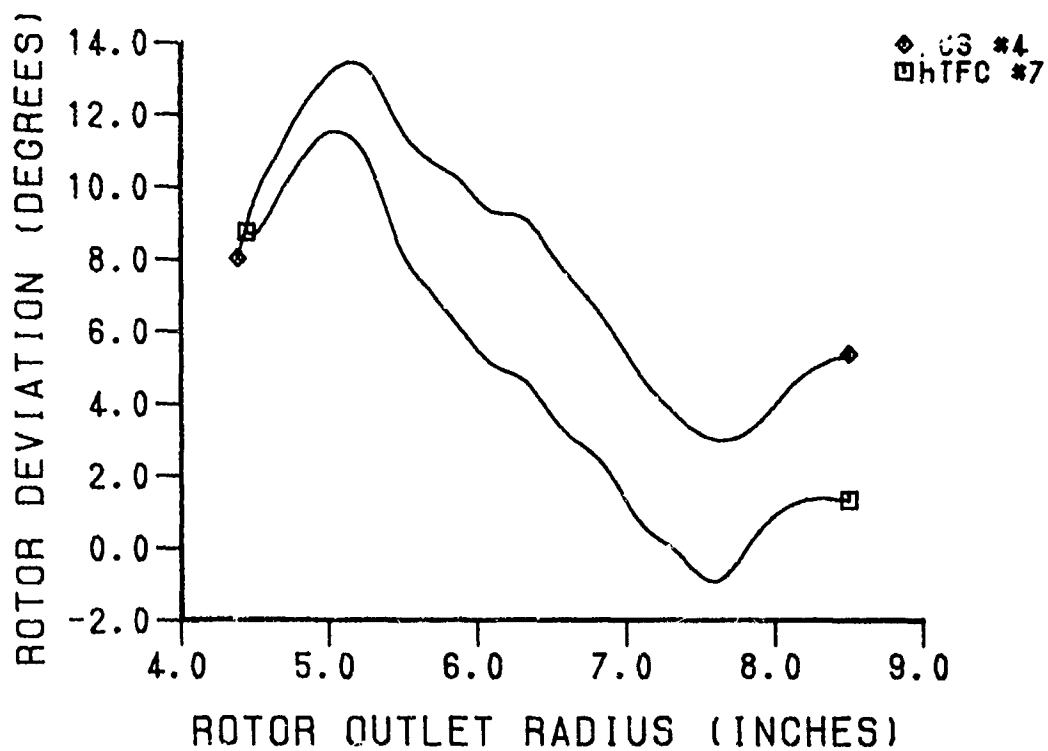


Figure 136. Rotor Deviation Angle (PBS #4 and Baseline)

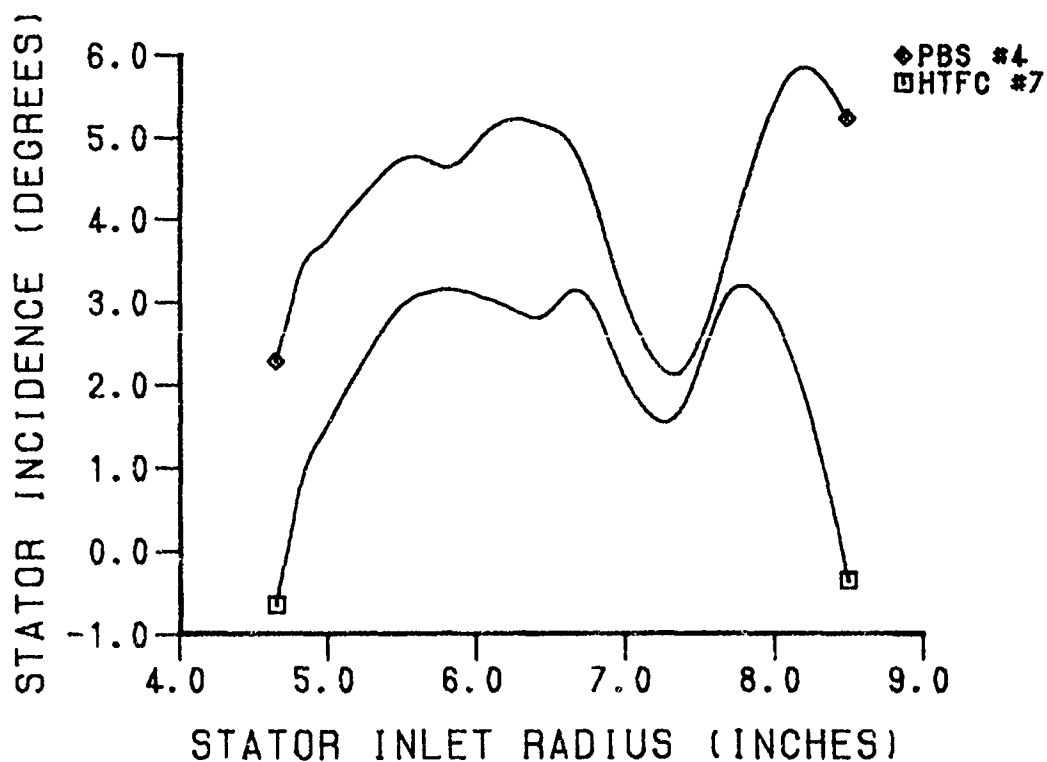


Figure 137. Stator Incidence Angle (PBS #4 and Baseline)

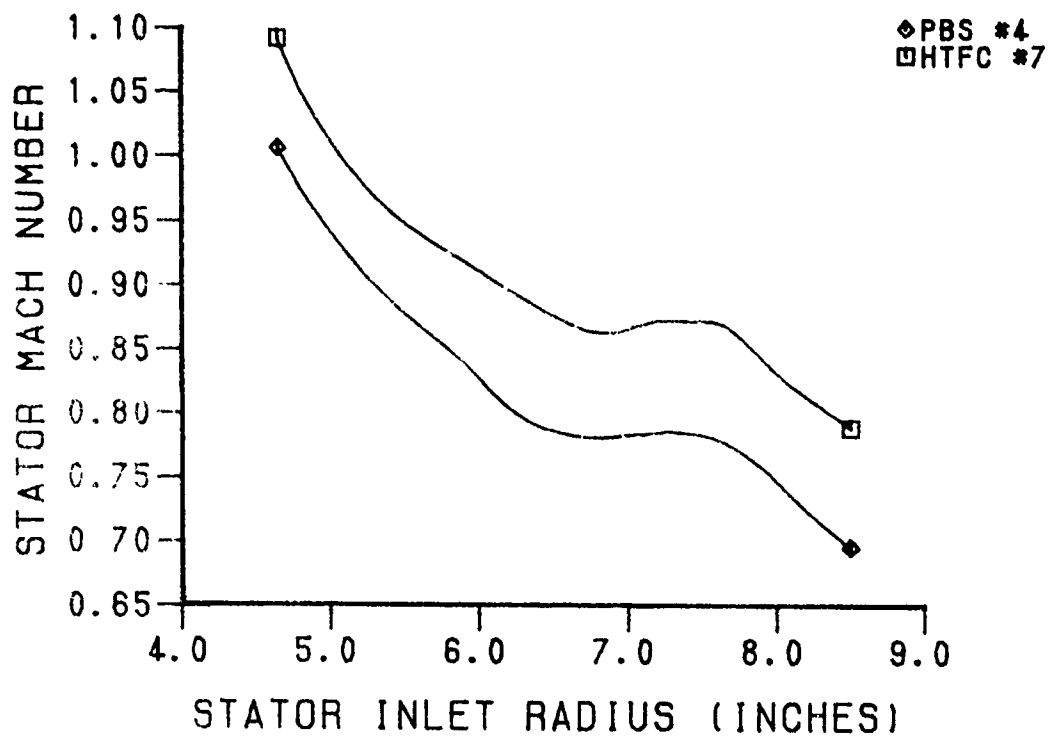


Figure 138. Stator Absolute Inlet Mach Number (PBS #4 and Baseline)

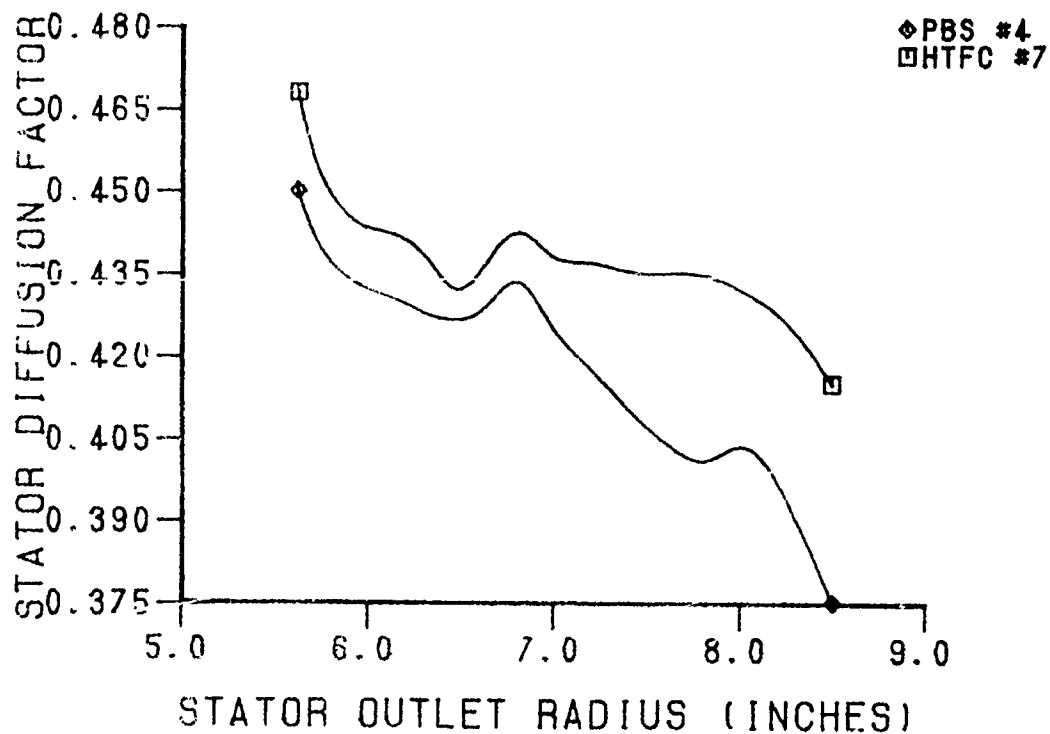


Figure 139. Stator Diffusion Factor (PBS #4 and Baseline)

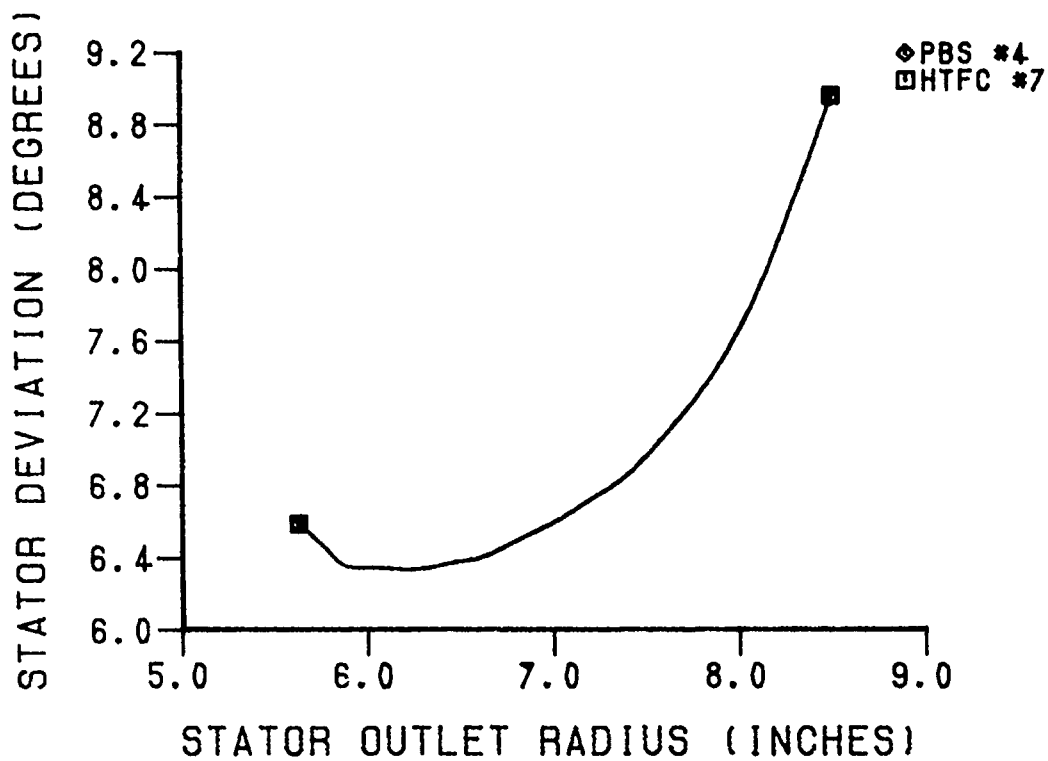


Figure 140. Stator Deviation Angle (PBS #4 and Baseline)

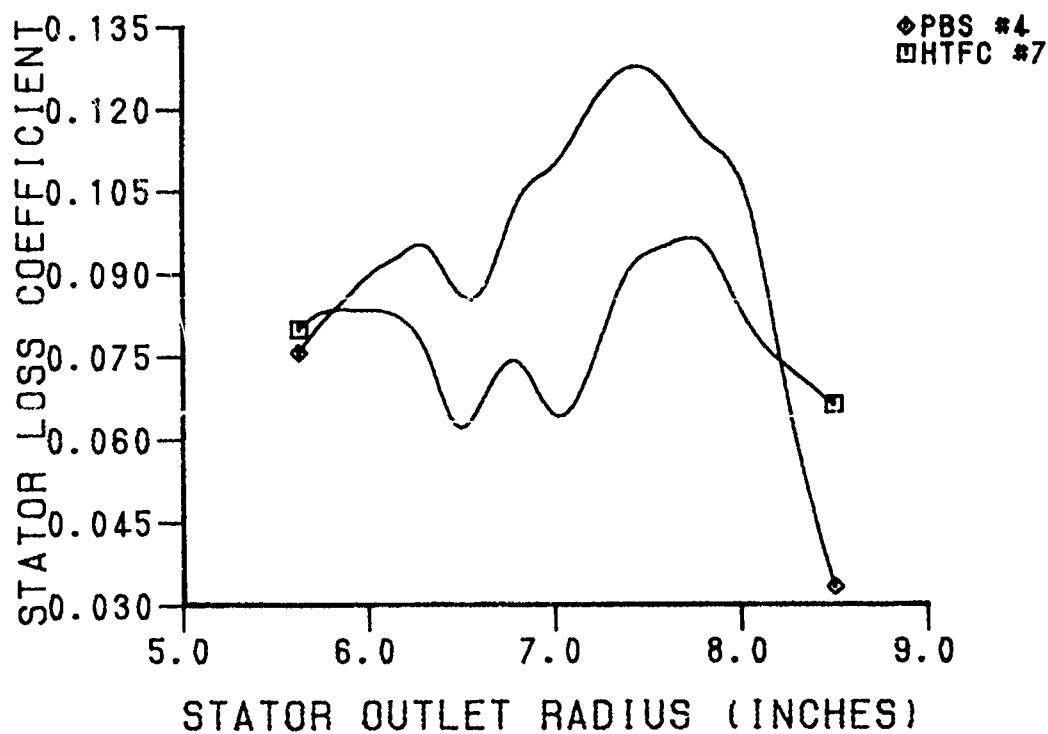


Figure 141. Stator Loss Coefficient (PBS #4 and Baseline)

APPENDIX A

SELECTED OUTPUTS FROM THE PHASE I ANALYSIS

COMPRESSOR CONFIGURATION:PBS SCAN: 1 TEST ID:870904001
NOMINAL % DESIGN SPEED:100 THROTTLE:000

PERFORMANCE:

MEAS. WORK =1628.31 ISEN. EFFIC.= 85.319 POLYTROPIC EFFIC.=86.509
MEAS. FLOWR.= 42.209 CORR. FLOWR.= 61.370 COMPUTED FLOWRATE=59.205
MEASURED RPM=20502.0 CORR. RPM =20191.7 % DESIGN RPM = 99.85
SPEC. HEAT = 1.401 GAS CONSTANT= 53.351 PRESSURE RATIO = 1.827
D.P. TEMP. =450.089 P. COR. FAC.= 1.432 TEMP. COR. FACT. = .970
ATMOS. PRES.= 14.370 ATM.PRES.(S)= 14.369 REL. HUMIDITY = .032
CALIBRATION PRESSURES (SONIX)= 9.0045 14.3698 29.3787

VENTURI PRESSURES:

INLET (AVG=11.461,SONIX=11.459)= 11.460 11.464 11.459 11.463
THROAT (AVG=10.143,SONIX=10.144)= 10.145 10.141 10.145 10.141
10.144 10.142 10.141 10.142
10.141 10.141 10.145 10.144

PLENUM CONDITIONS:

PRESSURES (AVG=10.261,SONIX=10.247)= 10.259 10.264
TEMPERATURES (AVG=534.77)= 534.50 535.09 534.23 534.38 535.65
535.65 534.08 533.88 535.50

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
PRESSURE = 25.581 26.437 26.290 ***** 27.761 ***** 28.424
28.880 28.873
RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
TEMPERATURE= 654.15 630.56 ***** 632.66 633.58 ***** *****
632.66 631.73

STATIC PRESSURES (CORRECTED):

----CASING---- ----HUB-----

X	P	X	P
-8.571	10.333	-5.125	14.918
-8.400	10.235	-5.125	14.757
-8.400	10.343	-5.125	15.197
-8.400	10.283	-5.125	14.764
-8.400	10.218	-1.650	18.396
-8.318	10.171	-1.650	19.040
-8.065	9.947	-1.650	18.914
-7.811	9.896	-1.650	17.941
-7.558	11.191	-.900	18.236
7.304	*****	-.900	18.870
-7.051	12.083	-.900	19.006
-6.798	*****	-.900	18.399
-6.544	16.103		
-6.291	17.768		
-6.037	18.855		
-5.784	19.766		
-1.650	20.318		
-1.650	20.809		
-1.650	20.688		
-1.650	20.154		
-.900	19.559		
-.900	20.059		
-.900	19.781		
-.900	19.146		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 1
THROTTLE:000

TEST ID:870904001

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	635.388	26.352	
1	2	5.996	1.16	631.471	24.571	
1	3	5.996	2.32	625.422	26.318	
1	4	5.996	3.48	630.367	28.120	
1	5	5.996	4.65	628.812	28.944	
1	6	5.996	5.81	630.105	29.249	
1	7	5.996	6.97	631.509	29.253	
1	8	5.996	8.13	632.376	29.317	
1	9	5.996	9.29	632.374	29.418	
1	10	5.996	10.45	633.472	27.905	
1	AVG			631.132	28.083	
2	1	6.387	0.00	623.430	26.563	
2	2	6.387	1.16	623.648	27.811	
2	3	6.387	2.32	625.895	27.906	
2	4	6.387	3.48	628.136	28.134	
2	5	6.387	4.65	630.206	28.179	
2	6	6.387	5.81	630.471	28.352	
2	7	6.387	6.97	629.182	28.416	
2	8	6.387	8.13	628.279	28.799	
2	9	6.387	9.29	630.004	28.905	
2	10	6.387	10.45	631.505	26.752	
2	AVG			628.108	28.011	
3	1	6.755	0.00	622.764	26.777	
3	2	6.755	1.16	622.817	27.469	
3	3	6.755	2.32	624.648	27.420	
3	4	6.755	3.48	628.339	27.391	
3	5	6.755	4.65	629.124	27.621	
3	6	6.755	5.81	629.902	27.859	
3	7	6.755	6.97	626.787	28.064	
3	8	6.755	8.13	630.047	28.276	
3	9	6.755	9.29	628.218	28.324	
3	10	6.755	10.45	631.065	26.398	
3	AVG			627.381	27.579	
4	1	7.104	0.00	627.277	26.454	
4	2	7.104	1.16	627.279	27.726	
4	3	7.104	2.32	629.228	27.697	
4	4	7.104	3.48	633.240	27.706	
4	5	7.104	4.65	632.379	27.516	
4	6	7.104	5.81	631.765	27.883	
4	7	7.104	6.97	631.887	27.770	
4	8	7.104	8.13	630.264	27.883	
4	9	7.104	9.29	630.903	28.194	
4	10	7.104	10.45	632.352	26.225	
4	AVG			630.664	27.527	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 1
THROTTLE:000

TEST ID:870904001

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	627.017	26.640	
5	2	7.437	1.16	626.568	27.630	
5	3	7.437	2.32	628.021	27.657	
5	4	7.437	3.48	630.966	27.532	
5	5	7.437	4.65	631.690	27.590	
5	6	7.437	5.81	632.231	27.695	
5	7	7.437	6.97	631.349	27.472	
5	8	7.437	8.13	630.984	27.806	
5	9	7.437	9.29	631.489	28.110	
5	10	7.437	10.45	632.905	26.031	
5	AVG			630.315	27.437	
6	1	7.756	0.00	631.192	25.577	
6	2	7.756	1.16	626.376	27.311	
6	3	7.756	2.32	630.042	27.451	
6	4	7.756	3.48	632.495	27.028	
6	5	7.756	4.65	632.747	26.810	
6	6	7.756	5.81	634.422	26.883	
6	7	7.756	6.97	634.158	26.688	
6	8	7.756	8.13	635.132	26.995	
6	9	7.756	9.29	635.291	27.149	
6	10	7.756	10.45	636.410	25.507	
6	AVG			632.777	26.768	
7	1	8.062	0.00	644.986	24.555	
7	2	8.062	1.16	636.797	26.677	
7	3	8.062	2.32	635.889	26.825	
7	4	8.062	3.48	638.747	26.420	
7	5	8.062	4.65	640.191	26.253	
7	6	8.062	5.81	644.548	26.509	
7	7	8.062	6.97	645.333	26.143	
7	8	8.062	8.13	645.768	26.396	
7	9	8.062	9.29	646.427	26.430	
7	10	8.062	10.45	651.910	25.052	
7	AVG			642.890	26.164	
8	1	8.356	0.00	647.993	25.125	
8	2	8.356	1.16	642.449	26.052	
8	3	8.356	2.32	645.245	25.872	
8	4	8.356	3.48	649.235	25.662	
8	5	8.356	4.65	652.201	25.194	
8	6	8.356	5.81	655.271	25.661	
8	7	8.356	6.97	656.866	25.507	
8	8	8.356	8.13	658.154	25.695	
8	9	8.356	9.29	658.662	25.963	
8	10	8.356	10.45	660.249	25.119	
8	AVG			652.561	25.594	

COMPRESSOR CONFIGURATION:PBS
 NOMINAL % DESIGN SPEED:100
 PERFORMANCE:

SCAN: 1
 THROTTLE:000

TEST ID:870909001

MEAS. WORK =1588.74 ISEN. EFFIC.= 86.280 POLYTROPIC EFFIC.=87.413
 MEAS. FLOWR.= 40.083 CORR. FLOWR.= 61.223 COMPUTED FLOWRATE=59.212
 MEASURED RPM=20656.0 CORR. RPM =20194.0 % DESIGN RPM = 99.86
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.352 PRESSURE RATIO = 1.848
 D.P. TEMP. =484.555 P. COR. FAC.= 1.493 TEMP. COR. FACT. = .956
 ATMOS. PRES.= 14.260 ATM.PRES.(S)= 14.258 REL. HUMIDITY = .118
 CALIBRATION PRESSURES (SONIX)= 9.0023 14.2586 29.2606

VENTURI PRESSURES:

INLET (AVG=10.995,SONIX=10.990)= 10.992 10.989 11.000 10.997
 THROAT (AVG= 9.730,SONIX= 9.730)= 9.731 9.729 9.731 9.729
 9.731 9.731 9.732 9.730
 9.728 9.728 9.731 9.731

PLENUM CONDITIONS:

PRESSURES (AVG= 9.840,SONIX= 9.824)= 9.837 9.844
 TEMPERATURES (AVG=542.72)= 542.36 543.10 542.22 542.51 543.65
 543.51 542.07 542.04 542.98

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 26.283 27.111 26.813 ***** 27.825 ***** 28.251
 28.883 28.914
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 656.21 630.21 ***** 631.22 635.68 ***** *****
 632.00 631.09

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	10.338	-5.125	15.169
-8.400	10.265	-5.125	14.993
-8.400	10.315	-5.125	15.405
-8.400	10.307	-5.125	14.985
-8.400	10.246	-1.650	19.020
-8.318	10.192	-1.650	19.640
-8.065	9.961	-1.650	19.479
-7.811	9.886	-1.650	18.555
-7.558	11.272	-.900	18.819
-7.304	*****	-.900	19.497
-7.051	12.182	-.900	19.555
-6.798	*****	-.900	18.976
-6.544	16.425		
-6.291	18.083		
-6.037	19.165		
-5.784	20.130		
-1.650	20.805		
-1.650	21.259		
-1.650	21.234		
-1.650	20.649		
-.900	20.064		
-.900	20.563		
-.900	20.347		
-.900	19.683		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 1
THROTTLE:000

TEST ID:870909001

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	635.234	26.315	
1	2	5.996	1.16	631.199	24.781	
1	3	5.996	2.32	625.624	26.395	
1	4	5.996	3.48	629.482	27.969	
1	5	5.996	4.65	628.483	28.962	
1	6	5.996	5.81	629.619	29.231	
1	7	5.996	6.97	630.794	29.266	
1	8	5.996	8.13	631.528	29.321	
1	9	5.996	9.29	631.431	29.434	
1	10	5.996	10.45	632.228	27.916	
1	AVG			630.543	28.098	
2	1	6.387	0.00	624.419	26.319	
2	2	6.387	1.16	622.915	27.941	
2	3	6.387	2.32	625.753	27.943	
2	4	6.387	3.48	627.038	28.165	
2	5	6.387	4.65	629.553	28.173	
2	6	6.387	5.81	629.808	28.488	
2	7	6.387	6.97	629.244	28.623	
2	8	6.387	8.13	628.217	28.900	
2	9	6.387	9.29	629.638	28.976	
2	10	6.387	10.45	630.305	26.961	
2	AVG			627.729	28.085	
3	1	6.755	0.00	623.231	26.646	
3	2	6.755	1.16	623.217	27.522	
3	3	6.755	2.32	624.413	27.499	
3	4	6.755	3.48	628.534	27.421	
3	5	6.755	4.65	628.681	27.723	
3	6	6.755	5.81	629.503	27.940	
3	7	6.755	6.97	626.554	28.099	
3	8	6.755	8.13	629.311	28.247	
3	9	6.755	9.29	627.186	28.332	
3	10	6.755	10.45	629.946	26.446	
3	AVG			627.070	27.609	
4	1	7.104	0.00	626.995	26.421	
4	2	7.104	1.16	627.302	27.903	
4	3	7.104	2.32	628.666	27.951	
4	4	7.104	3.48	632.449	27.915	
4	5	7.104	4.65	631.583	27.760	
4	6	7.104	5.81	631.143	28.096	
4	7	7.104	6.97	631.477	27.967	
4	8	7.104	8.13	630.078	28.107	
4	9	7.104	9.29	630.603	28.346	
4	10	7.104	10.45	631.452	26.406	
4	AVG			630.191	27.714	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 1
THROTTLE:000

TEST ID:870909001

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	628.915	26.503	
5	2	7.437	1.16	628.636	27.990	
5	3	7.437	2.32	629.436	27.946	
5	4	7.437	3.48	631.803	27.824	
5	5	7.437	4.65	632.418	27.943	
5	6	7.437	5.81	633.077	28.167	
5	7	7.437	6.97	632.314	27.912	
5	8	7.437	8.13	632.210	28.178	
5	9	7.437	9.29	631.774	28.364	
5	10	7.437	10.45	632.625	26.306	
5	AVG			631.331	27.742	
6	1	7.756	0.00	633.792	25.588	
6	2	7.756	1.16	629.397	27.880	
6	3	7.756	2.32	632.049	28.128	
6	4	7.756	3.48	634.546	27.789	
6	5	7.756	4.65	634.788	27.532	
6	6	7.756	5.81	636.286	27.624	
6	7	7.756	6.97	636.402	27.430	
6	8	7.756	8.13	637.514	27.577	
6	9	7.756	9.29	637.290	27.656	
6	10	7.756	10.45	639.383	25.969	
6	AVG			635.088	27.361	
7	1	8.062	0.00	647.597	25.015	
7	2	8.062	1.16	639.081	27.290	
7	3	8.062	2.32	637.480	27.578	
7	4	8.062	3.48	641.127	27.040	
7	5	8.062	4.65	642.816	26.766	
7	6	8.062	5.81	646.462	27.091	
7	7	8.062	6.97	648.716	26.699	
7	8	8.062	8.13	648.889	26.982	
7	9	8.062	9.29	648.782	26.917	
7	10	8.062	10.45	653.734	25.560	
7	AVG			645.276	26.739	
8	1	8.356	0.00	650.372	25.582	
8	2	8.356	1.16	645.087	26.638	
8	3	8.356	2.32	647.904	26.448	
8	4	8.356	3.48	651.743	26.221	
8	5	8.356	4.65	654.438	26.766	
8	6	8.356	5.81	657.169	26.212	
8	7	8.356	6.97	659.610	25.972	
8	8	8.356	8.13	660.771	26.268	
8	9	8.356	9.29	660.700	26.465	
8	10	8.356	10.45	662.363	25.649	
8	AVG			654.936	26.234	

COMPRESSOR CONFIGURATION:PBS

SCAN: 2

TEST ID:870909003

NOMINAL % DESIGN SPEED:100

THROTTLE:015

PERFORMANCE:

MEAS. WORK =1590.34 ISEN. EFFIC.= 87.408 POLYTROPIC EFFIC.=88.494
 MEAS. FLOWR.= 38.325 CORR. FLOWR.= 61.006 COMPUTED FLOWRATE=59.298
 MEASURED RPM=20668.0 CORR. RPM =20180.3 % DESIGN RPM = 99.79
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.352 PRESSURE RATIO = 1.904
 D.P. TEMP. =483.742 P. COR. FAC.= 1.554 TEMP. COR. FACT. = .953
 ATMOS. PRES.= 14.258 ATM.PRES.(S)= 14.259 REL. HUMIDITY = .109
 CALIBRATION PRESSURES (SONIX)= 9.0025 14.2583 29.2624

VENTURI PRESSURES:

INLET (AVG=10.558,SONIX=10.557)= 10.560 10.557 10.561 10.552
 THROAT (AVG= 9.350,SONIX= 9.352)= 9.351 9.343 9.351 9.343
 9.352 9.351 9.352 9.351
 9.350 9.350 9.352 9.351

PLENUM CONDITIONS:

PRESSURES (AVG= 9.454,SONIX= 9.438)= 9.457 9.451
 TEMPERATURES (AVG=544.08)= 543.96 544.40 543.81 543.81 544.81
 544.66 543.52 543.14 544.66

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 27.830 28.463 27.777 ***** 28.144 ***** 28.521
 28.999 29.083
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 662.23 630.76 ***** 631.41 641.41 ***** *****
 632.21 632.77

STATIC PRESSURES (CORRECTED):

----CASING---- ----HUB-----

X	P	X	P
-8.571	10.347	-5.125	15.609
-8.400	10.276	-5.125	15.457
-8.400	10.297	-5.125	15.884
-8.400	10.305	-5.125	15.424
-8.400	10.259	-1.650	20.370
-8.318	10.213	-1.650	20.885
-8.065	9.979	-1.650	20.770
-7.811	9.970	-1.650	19.874
-7.558	11.652	-.900	20.123
-7.304	*****	-.900	20.829
-7.051	12.578	-.900	20.831
-6.798	*****	-.900	20.333
-6.544	16.894		
-6.291	19.151		
-6.037	19.912		
-5.781	21.036		
-1.650	21.954		
-1.650	22.396		
-1.650	22.402		
-1.650	21.743		
-.900	21.232		
-.900	21.714		
-.900	21.598		
-.900	20.830		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 2
THROTTLE:015

TEST ID:870909003

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	635.474	26.679	
1	2	5.996	1.16	631.701	25.548	
1	3	5.996	2.32	626.198	27.020	
1	4	5.996	3.48	630.242	28.112	
1	5	5.996	4.65	628.895	28.981	
1	6	5.996	5.81	629.991	29.240	
1	7	5.996	6.97	631.486	29.320	
1	8	5.996	8.13	631.594	29.377	
1	9	5.996	9.29	631.991	29.559	
1	10	5.996	10.45	632.653	28.403	
1	AVG			630.999	28.338	
2	1	6.387	0.00	627.059	26.256	
2	2	6.387	1.16	623.325	27.842	
2	3	6.387	2.32	627.066	28.431	
2	4	6.387	3.48	627.435	28.561	
2	5	6.387	4.65	630.010	28.524	
2	6	6.387	5.81	631.423	28.965	
2	7	6.387	6.97	631.538	28.821	
2	8	6.387	8.13	630.211	29.283	
2	9	6.387	9.29	630.691	29.410	
2	10	6.387	10.45	630.464	27.573	
2	AVG			628.990	28.418	
3	1	6.755	0.00	625.608	26.536	
3	2	6.755	1.16	625.493	27.971	
3	3	6.755	2.32	625.476	27.864	
3	4	6.755	3.48	629.515	27.738	
3	5	6.755	4.65	630.886	28.021	
3	6	6.755	5.81	630.546	28.122	
3	7	6.755	6.97	628.303	28.371	
3	8	6.755	8.13	629.973	28.505	
3	9	6.755	9.29	628.210	28.625	
3	10	6.755	10.45	630.577	27.053	
3	AVG			628.479	27.907	
4	1	7.104	0.00	628.171	26.587	
4	2	7.104	1.16	627.652	28.211	
4	3	7.104	2.32	628.370	28.236	
4	4	7.104	3.48	632.548	28.171	
4	5	7.104	4.65	631.667	28.298	
4	6	7.104	5.81	632.743	28.611	
4	7	7.104	6.97	632.718	28.420	
4	8	7.104	8.13	632.751	28.675	
4	9	7.104	9.29	632.885	28.959	
4	10	7.104	10.45	633.252	27.029	
4	AVG			631.310	28.154	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 2
THROTTLE:015

TEST ID:870909003

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	634.079	26.695	
5	2	7.437	1.16	633.075	28.502	
5	3	7.437	2.32	631.791	28.675	
5	4	7.437	3.48	636.077	28.555	
5	5	7.437	4.65	636.901	28.605	
5	6	7.437	5.81	637.612	28.874	
5	7	7.437	6.97	637.435	28.587	
5	8	7.437	8.13	637.894	28.872	
5	9	7.437	9.29	636.094	28.978	
5	10	7.437	10.45	637.902	27.239	
5	AVG			635.895	28.394	
6	1	7.756	0.00	644.959	26.111	
6	2	7.756	1.16	638.591	28.233	
6	3	7.756	2.32	637.459	29.024	
6	4	7.756	3.48	638.984	29.077	
6	5	7.756	4.65	641.557	29.207	
6	6	7.756	5.81	642.987	29.452	
6	7	7.756	6.97	643.313	28.853	
6	8	7.756	8.13	644.989	29.120	
6	9	7.756	9.29	644.824	29.067	
6	10	7.756	10.45	648.434	27.157	
6	AVG			642.499	28.604	
7	1	8.062	0.00	655.700	26.135	
7	2	8.062	1.16	646.415	28.176	
7	3	8.062	2.32	643.079	29.331	
7	4	8.062	3.48	645.023	28.797	
7	5	8.062	4.65	648.626	28.312	
7	6	8.062	5.81	651.611	28.814	
7	7	8.062	6.97	655.718	28.234	
7	8	8.062	8.13	656.986	28.377	
7	9	8.062	9.29	656.075	28.277	
7	10	8.062	10.45	661.624	26.908	
7	AVG			651.819	28.197	
8	1	8.356	0.00	658.534	27.112	
8	2	8.356	1.16	652.960	28.273	
8	3	8.356	2.32	654.833	28.284	
8	4	8.356	3.48	656.984	27.818	
8	5	8.356	4.65	661.254	28.312	
8	6	8.356	5.81	664.339	27.716	
8	7	8.356	6.97	666.980	27.422	
8	8	8.356	8.13	668.851	27.640	
8	9	8.356	9.29	668.766	27.863	
8	10	8.356	10.45	671.009	27.043	
8	AVG			662.308	27.764	

COMPRESSOR CONFIGURATION:PBS

SCAN: 3

TEST ID:870909006

NOMINAL % DESIGN SPEED:100

THROTTLE:045

PERFORMANCE:

MEAS. WORK =1611.09 ISEN. EFFIC.= 88.626 POLYTROPIC EFFIC.=89.663
 MEAS. FLOWR.= 36.679 CORR. FLOWR.= 60.773 COMPUTED FLOWRATE=59.435
 MEASURED RPM=20702.0 CORR. RPM =20199.3 % DESIGN RPM = 99.89
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.352 PRESSURE RATIO = 1.976
 D.P. TEMP. =484.119 P. COR. FAC.= 1.617 TEMP. COR. FACT. = .952
 ATMOS. PRES.= 14.258 ATM.PRES.(S)= 14.257 REL. HUMIDITY = .108
 CALIBRATION PRESSURES (SONIX)= 9.0020 14.2569 29.2575

VENTURI PRESSURES:

INLET (AVG=10.147,SONIX=10.146)= 10.148 10.142 10.149 10.147
 THROAT (AVG= 8.993,SONIX= 8.997)= 8.991 8.991 8.991 8.991
 8.996 8.994 8.996 8.995
 8.993 8.993 8.996 8.995

PLENUM CONDITIONS:

PRESSURES (AVG= 9.089,SONIX= 9.080)= 9.100 9.079
 TEMPERATURES (AVG=544.85)= 544.86 545.15 544.59 544.59 545.59
 545.44 544.15 543.86 545.41

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 29.899 30.008 29.299 ***** 29.174 ***** 29.194
 29.325 29.422
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 672.55 633.66 ***** 634.47 648.65 ***** *****
 633.13 638.23

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	10.390	-5.125	16.235
-8.400	10.314	-5.125	16.109
-8.400	10.378	-5.125	16.555
-8.400	10.418	-5.125	16.075
-8.400	10.338	-1.650	21.928
-8.318	10.262	-1.650	22.328
-8.065	10.065	-1.650	22.299
-7.811	10.139	-1.650	21.434
-7.558	12.024	-.900	21.654
-7.304	*****	-.900	22.371
-7.051	14.882	-.900	22.375
-6.798	*****	-.900	21.868
-6.544	19.219		
-6.291	20.552		
-6.037	21.121		
-5.784	22.346		
-1.550	23.302		
-1.650	23.782		
-1.650	23.778		
-1.650	23.027		
-.900	22.605		
-.900	23.129		
-.900	23.027		
-.900	22.218		

COMPRESSOR CONFIGURATION:PBS
NOMINAL & DESIGN SPEED:100

SCAN: 3
THROTTLE:045

TEST ID:870909006

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	633.734	27.654	
1	2	5.996	1.16	630.191	26.333	
1	3	5.996	2.32	627.465	27.542	
1	4	5.996	3.48	631.970	28.790	
1	5	5.996	4.65	630.502	29.196	
1	6	5.996	5.81	631.564	29.406	
1	7	5.996	6.97	632.342	29.379	
1	8	5.996	8.13	632.919	29.584	
1	9	5.996	9.29	632.931	29.792	
1	10	5.996	10.45	633.864	28.868	
1	AVG			631.816	28.743	
2	1	6.387	0.00	628.542	26.772	
2	2	6.387	1.16	627.435	28.084	
2	3	6.387	2.32	629.380	28.683	
2	4	6.387	3.48	631.079	29.077	
2	5	6.387	4.65	630.805	29.019	
2	6	6.387	5.81	631.892	29.304	
2	7	6.387	6.97	633.658	29.375	
2	8	6.387	8.13	633.698	29.636	
2	9	6.387	9.29	633.719	29.924	
2	10	6.387	10.45	631.576	28.286	
2	AVG			631.287	28.874	
3	1	6.755	0.00	632.553	27.032	
3	2	6.755	1.16	628.327	27.985	
3	3	6.755	2.32	629.666	28.507	
3	4	6.755	3.48	631.566	28.447	
3	5	6.755	4.65	633.496	28.650	
3	6	6.755	5.81	634.333	28.792	
3	7	6.755	6.97	631.648	28.862	
3	8	6.755	8.13	633.735	29.184	
3	9	6.755	9.29	631.767	29.485	
3	10	6.755	10.45	633.263	28.289	
3	AVG			632.053	28.557	
4	1	7.104	0.00	637.299	27.009	
4	2	7.104	1.16	631.582	28.678	
4	3	7.104	2.32	631.492	28.764	
4	4	7.104	3.48	636.038	28.617	
4	5	7.104	4.65	634.864	28.796	
4	6	7.104	5.81	635.915	29.311	
4	7	7.104	6.97	637.543	29.295	
4	8	7.104	8.13	638.706	29.771	
4	9	7.104	9.29	638.044	29.971	
4	10	7.104	10.45	639.400	28.429	
4	AVG			636.101	28.912	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 3
THROTTLE:045

TEST ID:870909006

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	645.049	27.337	
5	2	7.437	1.16	636.634	28.928	
5	3	7.437	2.32	634.517	29.354	
5	4	7.437	3.48	638.673	29.731	
5	5	7.437	4.65	640.019	29.755	
5	6	7.437	5.81	642.123	29.994	
5	7	7.437	6.97	644.004	30.052	
5	8	7.437	8.13	645.757	30.205	
5	9	7.437	9.29	645.067	30.705	
5	10	7.437	10.45	646.247	28.826	
5	AVG			641.797	29.548	
6	1	7.756	0.00	656.009	27.322	
6	2	7.756	1.16	643.695	27.940	
6	3	7.756	2.32	641.706	29.196	
6	4	7.756	3.48	644.416	30.490	
6	5	7.756	4.65	647.245	30.792	
6	6	7.756	5.81	650.090	31.197	
6	7	7.756	6.97	651.500	30.783	
6	8	7.756	8.13	652.672	30.901	
6	9	7.756	9.29	653.077	30.749	
6	10	7.756	10.45	658.364	28.921	
6	AVG			649.820	29.951	
7	1	8.062	0.00	664.773	27.659	
7	2	8.062	1.16	653.011	28.851	
7	3	8.062	2.32	648.268	30.420	
7	4	8.062	3.48	651.046	30.332	
7	5	8.062	4.65	655.069	30.029	
7	6	8.062	5.81	658.162	30.790	
7	7	8.062	6.97	662.951	29.891	
7	8	8.062	8.13	664.685	30.095	
7	9	8.062	9.29	664.673	30.111	
7	10	8.062	10.45	672.495	28.932	
7	AVG			659.283	29.771	
8	1	8.356	0.00	668.783	28.650	
8	2	8.356	1.16	661.667	29.702	
8	3	8.356	2.32	660.479	29.972	
8	4	8.356	3.48	664.820	29.541	
8	5	8.356	4.65	668.420	30.029	
8	6	8.356	5.81	672.289	29.733	
8	7	8.356	6.97	675.898	29.566	
8	8	8.356	8.13	678.793	29.618	
8	9	8.356	9.29	679.190	29.874	
8	10	8.356	10.45	681.985	29.274	
8	AVG			671.161	29.607	

COMPRESSOR CONFIGURATION:PBS

SCAN: 4

TEST ID:870909008

NOMINAL % DESIGN SPEED:100

THROTTLE:065

PERFORMANCE:

MEAS. WORK =1632.62 ISEN. EFFIC.= 86.562 POLYTROPIC EFFIC.=87.817
 MEAS. FLOWR.= 35.096 CORR. FLOWR.= 59.287 COMPUTED FLOWRATE=58.203
 MEASURED RPM=20702.0 CORR. RPM =20200.5 % DESIGN RPM = 99.89
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.352 PRESSURE RATIO = 2.015
 D.P. TEMP. =482.761 P. COR. FAC.= 1.648 TEMP. COR. FACT. = .952
 ATMOS. PRES.= 14.256 ATM.PRES.(S)= 14.257 REL. HUMIDITY = .103
 CALIBRATION PRESSURES (SONIX)= 9.0016 14.2569 29.2628

VENTURI PRESSURES:

INLET (AVG= 9.903,SONIX= 9.902)= 9.910 9.896 9.905 9.902
 THROAT (AVG= 8.829,SONIX= 8.831)= 8.822 8.831 8.822 8.831
 8.831 8.830 8.830 8.830
 8.829 8.829 8.831 8.831

PLENUM CONDITIONS:

PRESSURES (AVG= 8.914,SONIX= 8.902)= 8.915 8.914
 TEMPERATURES (AVG=544.79)= 544.92 545.07 544.63 544.37 545.21
 545.21 544.22 544.07 545.36

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 31.296 30.979 30.067 ***** 30.240 ***** 29.934
 29.367 29.624
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 676.76 633.86 ***** 638.16 655.61 *****
 634.00 643.06

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	10.627	-5.125	16.839
-8.400	10.684	-5.125	16.695
-8.400	10.738	-5.125	17.145
-8.400	10.852	-5.125	16.657
-8.400	10.830	-1.650	22.948
-8.300	10.568	-1.650	23.179
-8.060	10.447	-1.650	23.279
-7.800	10.950	-1.650	22.443
-7.550	14.546	-.900	22.703
-7.304	*****	-.900	23.310
-7.051	17.113	-.900	23.374
-6.798	*****	-.900	22.900
-6.544	20.832		
-6.291	21.620		
-6.037	22.489		
-5.784	23.445		
-1.650	24.078		
-1.650	24.480		
-1.650	24.479		
-1.650	23.765		
-.900	23.500		
-.900	24.013		
-.900	23.863		
-.900	23.109		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 4
THROTTLE:065

TEST ID:870909008

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	633.182	28.104	
1	2	5.996	1.16	630.752	26.573	
1	3	5.996	2.32	628.191	26.890	
1	4	5.996	3.48	631.132	28.999	
1	5	5.996	4.65	633.054	29.352	
1	6	5.996	5.81	633.520	29.608	
1	7	5.996	6.97	633.797	29.604	
1	8	5.996	8.13	634.766	29.697	
1	9	5.996	9.29	634.509	30.024	
1	10	5.996	10.45	635.329	29.167	
1	AVG			632.997	28.923	
2	1	6.387	0.00	633.124	27.490	
2	2	6.387	1.16	631.546	28.154	
2	3	6.387	2.32	633.099	28.444	
2	4	6.387	3.48	637.996	29.544	
2	5	6.387	4.65	635.963	29.622	
2	6	6.387	5.81	636.539	29.843	
2	7	6.387	6.97	636.950	29.782	
2	8	6.387	8.13	636.022	29.943	
2	9	6.387	9.29	636.178	30.238	
2	10	6.387	10.45	634.191	28.488	
2	AVG			635.280	29.219	
3	1	6.755	0.00	637.103	27.679	
3	2	6.755	1.16	633.433	27.309	
3	3	6.755	2.32	635.210	27.740	
3	4	6.755	3.48	637.127	29.381	
3	5	6.755	4.65	639.011	29.354	
3	6	6.755	5.81	638.417	29.842	
3	7	6.755	6.97	638.809	29.724	
3	8	6.755	8.13	638.082	30.149	
3	9	6.755	9.29	637.768	30.147	
3	10	6.755	10.45	636.526	29.094	
3	AVG			637.266	29.132	
4	1	7.104	0.00	645.773	27.760	
4	2	7.104	1.16	638.243	27.490	
4	3	7.104	2.32	637.799	27.779	
4	4	7.104	3.48	643.245	29.406	
4	5	7.104	4.65	640.578	29.467	
4	6	7.104	5.81	641.329	29.924	
4	7	7.104	6.97	642.462	29.854	
4	8	7.104	8.13	643.508	30.114	
4	9	7.104	9.29	644.660	30.882	
4	10	7.104	10.45	645.371	29.490	
4	AVG			642.408	29.318	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 4
THROTTLE:065

TEST ID:870909008

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	654.901	28.191	
5	2	7.437	1.16	643.596	27.484	
5	3	7.437	2.32	641.648	28.103	
5	4	7.437	3.48	648.508	29.642	
5	5	7.437	4.65	644.476	30.136	
5	6	7.437	5.81	644.501	30.284	
5	7	7.437	6.97	648.884	31.160	
5	8	7.437	8.13	653.216	31.739	
5	9	7.437	9.29	652.870	32.113	
5	10	7.437	10.45	654.224	30.613	
5	AVG			648.923	30.120	
6	1	7.756	0.00	665.476	28.318	
6	2	7.756	1.16	650.850	27.023	
6	3	7.756	2.32	647.262	27.695	
6	4	7.756	3.48	653.035	30.553	
6	5	7.756	4.65	652.757	31.053	
6	6	7.756	5.81	655.822	31.872	
6	7	7.756	6.97	658.381	31.624	
6	8	7.756	8.13	662.107	31.795	
6	9	7.756	9.29	662.556	31.824	
6	10	7.756	10.45	668.082	30.276	
6	AVG			657.941	30.443	
7	1	8.062	0.00	676.551	28.012	
7	2	8.062	1.16	660.734	28.086	
7	3	8.062	2.32	657.140	28.910	
7	4	8.062	3.48	660.324	30.663	
7	5	8.062	4.65	663.395	30.714	
7	6	8.062	5.81	666.442	31.577	
7	7	8.062	6.97	669.552	31.136	
7	8	8.062	8.13	672.399	31.336	
7	9	8.062	9.29	673.023	31.567	
7	10	8.062	10.45	680.731	30.112	
7	AVG			668.100	30.344	
8	1	8.356	0.00	686.439	28.912	
8	2	8.356	1.16	674.301	29.876	
8	3	8.356	2.32	668.285	30.796	
8	4	8.356	3.48	671.420	30.746	
8	5	8.356	4.65	677.494	30.714	
8	6	8.356	5.81	681.085	31.115	
8	7	8.356	6.97	683.367	30.952	
8	8	8.356	8.13	685.891	30.938	
8	9	8.356	9.29	686.877	31.447	
8	10	8.356	10.45	689.534	30.708	
8	AVG			680.428	30.654	

COMPRESSOR CONFIGURATION:PBS

SCAN: 5

TEST ID:870909009

NOMINAL % DESIGN SPEED:100

THROTTLE:075

PERFORMANCE:

MEAS. WORK =1627.99 ISEN. EFFIC.= 84.276 POLYTROPIC EFFIC.=85.742
 MEAS. FLOWR.= 33.956 CORR. FLOWR.= 57.600 COMPUTED FLOWRATE=56.790
 MEASURED RPM=20692.0 CORR. RPM =20191.6 % DESIGN RPM = 99.85
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.352 PRESSURE RATIO = 2.014
 D.P. TEMP. =483.020 P. COR. FAC.= 1.655 TEMP. COR. FACT. = .952
 ATMOS. PRES.= 14.255 ATM.PRES.(S)= 14.257 REL. HUMIDITY = .104
 CALIBRATION PRESSURES (SONIX)= 9.0021 14.2572 29.2614

VENTURI PRESSURES:

INLET (AVG= 9.803,SONIX= 9.809)= 9.813 9.796 9.806 9.799
 THROAT (AVG= 8.795,SONIX= 8.797)= 8.791 8.798 8.791 8.798
 8.797 8.795 8.796 8.797
 8.794 8.794 8.797 8.797

PLENUM CONDITIONS:

PRESSURES (AVG= 8.877,SONIX= 8.861)= 8.872 8.882
 TEMPERATURES (AVG=544.74)= 544.80 544.94 544.50 544.50 545.23
 545.23 544.09 543.95 545.38

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 31.282 31.132 30.181 ***** 30.367 ***** 29.946
 29.389 29.715
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 683.79 637.45 ***** 640.27 656.65 ***** *****
 634.88 644.92

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	10.985	-5.125	17.010
-8.400	11.115	-5.125	16.874
-8.400	11.263	-5.125	17.290
-8.400	11.302	-5.125	16.842
-8.400	11.219	-1.650	23.180
-8.318	10.982	-1.650	23.335
-8.065	10.747	-1.650	23.498
-7.811	11.395	-1.650	22.729
-7.558	16.107	-.900	22.990
-7.304	*****	-.900	23.514
-7.051	18.055	-.900	23.618
-6.798	*****	-.900	23.187
-6.544	21.332		
-6.291	22.093		
-6.037	22.738		
-5.784	23.784		
-1.650	24.180		
-1.650	24.602		
-1.650	24.497		
-1.650	23.911		
-.900	23.683		
-.900	24.218		
-.900	24.051		
-.900	23.360		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 5
THROTTLE:075

TEST ID:870909009

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	633.713	28.241	
1	2	5.996	1.16	631.362	26.572	
1	3	5.996	2.32	628.407	26.483	
1	4	5.996	3.48	631.456	28.891	
1	5	5.996	4.65	634.151	29.385	
1	6	5.996	5.81	634.986	29.629	
1	7	5.996	6.97	634.615	29.746	
1	8	5.996	8.13	634.617	29.752	
1	9	5.996	9.29	634.718	30.103	
1	10	5.996	10.45	635.013	29.060	
1	AVG			633.519	28.935	
2	1	6.387	0.00	635.687	27.550	
2	2	6.387	1.16	633.303	27.752	
2	3	6.387	2.32	632.192	28.138	
2	4	6.387	3.48	638.112	29.524	
2	5	6.387	4.65	638.550	29.769	
2	6	6.387	5.81	638.053	29.931	
2	7	6.387	6.97	638.340	29.981	
2	8	6.387	8.13	636.972	29.991	
2	9	6.387	9.29	637.833	30.228	
2	10	6.387	10.45	636.622	28.491	
2	AVG			636.710	29.220	
3	1	6.755	0.00	639.214	27.646	
3	2	6.755	1.16	635.946	27.082	
3	3	6.755	2.32	637.099	27.288	
3	4	6.755	3.48	639.794	29.407	
3	5	6.755	4.65	641.114	29.464	
3	6	6.755	5.81	641.212	29.949	
3	7	6.755	6.97	639.098	29.874	
3	8	6.755	8.13	639.298	30.211	
3	9	6.755	9.29	638.244	30.480	
3	10	6.755	10.45	638.770	29.080	
3	AVG			639.089	29.179	
4	1	7.104	0.00	646.897	27.547	
4	2	7.104	1.16	640.557	26.500	
4	3	7.104	2.32	639.228	26.855	
4	4	7.104	3.48	644.808	29.360	
4	5	7.104	4.65	645.625	29.560	
4	6	7.104	5.81	644.332	29.978	
4	7	7.104	6.97	644.236	30.134	
4	8	7.104	8.13	644.129	30.240	
4	9	7.104	9.29	643.965	30.770	
4	10	7.104	10.45	647.660	29.705	
4	AVG			644.334	29.265	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 5
THROTTLE:075

TEST ID:870909009

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	657.001	28.266	
5	2	7.437	1.16	647.121	26.383	
5	3	7.437	2.32	643.983	27.180	
5	4	7.437	3.48	650.322	29.687	
5	5	7.437	4.65	646.802	29.964	
5	6	7.437	5.81	646.476	30.484	
5	7	7.437	6.97	649.209	30.997	
5	8	7.437	8.13	655.767	31.237	
5	9	7.437	9.29	654.341	32.073	
5	10	7.437	10.45	662.098	30.182	
5	AVG			651.617	29.910	
6	1	7.756	0.00	670.443	28.326	
6	2	7.756	1.16	654.419	26.277	
6	3	7.756	2.32	649.508	27.136	
6	4	7.756	3.48	654.449	29.517	
6	5	7.756	4.65	655.674	30.745	
6	6	7.756	5.81	656.422	31.716	
6	7	7.756	6.97	661.336	31.593	
6	8	7.756	8.13	666.985	31.724	
6	9	7.756	9.29	667.968	31.925	
6	10	7.756	10.45	680.505	30.491	
6	AVG			662.323	30.273	
7	1	8.062	0.00	682.360	28.095	
7	2	8.062	1.16	664.660	27.379	
7	3	8.062	2.32	662.517	28.349	
7	4	8.062	3.48	666.452	30.081	
7	5	8.062	4.65	669.457	30.825	
7	6	8.062	5.81	667.794	31.735	
7	7	8.062	6.97	674.096	31.304	
7	8	8.062	8.13	678.382	31.499	
7	9	8.062	9.29	678.876	31.805	
7	10	8.062	10.45	689.631	30.966	
7	AVG			673.734	30.401	
8	1	8.356	0.00	694.924	29.141	
8	2	8.356	1.16	680.111	29.209	
8	3	8.356	2.32	675.338	30.224	
8	4	8.356	3.48	680.055	30.711	
8	5	8.356	4.65	682.382	30.825	
8	6	8.356	5.81	684.911	31.637	
8	7	8.356	6.97	688.021	31.403	
8	8	8.356	8.13	692.348	31.260	
8	9	8.356	9.29	692.622	31.769	
8	10	8.356	10.45	697.390	31.517	
8	AVG			686.907	30.829	

COMPRESSOR CONFIGURATION:PBS

SCAN: 6

TEST ID:870909010

NOMINAL % DESIGN SPEED:100

THROTTLE:079

PERFORMANCE:

MEAS. WORK =1622.40 ISEN. EFFIC.= 83.141 POLYTROPIC EFFIC.=84.711
 MEAS. FLOWR.= 33.496 CORR. FLOWR.= 56.846 COMPUTED FLOWRATE=55.904
 MEASURED RPM=20710.0 CORR. RPM =20211.1 % DESIGN RPM = 99.94
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.352 PRESSURE RATIO = 2.014
 D.P. TEMP. =483.049 P. COR. FAC.= 1.656 TEMP. COR. FACT. = .952
 ATMOS. PRES.= 14.255 ATM.PRES.(S)= 14.257 REL. HUMIDITY = .104
 CALIBRATION PRESSURES (SONIX)= 9.0029 14.2566 29.2599

VENTURI PRESSURES:

INLET (AVG= 9.776,SONIX= 9.777)= 9.781 9.774 9.773 9.778
 THROAT (AVG= 8.796,SONIX= 8.795)= 8.791 8.799 8.791 8.799
 8.798 8.798 8.797 8.798
 8.796 8.796 8.798 8.797

PLENUM CONDITIONS:

PRESSURES (AVG= 8.872,SONIX= 8.857)= 8.873 8.871
 TEMPERATURES (AVG=544.63)= 544.59 544.74 544.45 544.33 545.00
 544.89 544.01 544.18 545.53

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 31.276 31.246 30.318 ***** 30.335 ***** 30.098
 29.510 29.815
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 689.11 639.02 ***** 640.43 659.86 ***** *****
 635.05 646.51

STATIC PRESSURES (CORRECTED):

----CASING---- -----HUB-----

X	P	X	P
-8.571	11.236	-5.125	17.099
-8.400	11.319	-5.125	16.956
-8.400	11.447	-5.125	17.353
-8.400	11.503	-5.125	16.935
-8.400	11.410	-1.650	23.306
-8.318	11.194	-1.650	23.422
-8.065	10.925	-1.650	23.612
-7.811	11.631	-1.650	22.862
-7.558	16.915	-.900	23.154
-7.304	*****	-.900	23.629
-7.051	18.554	-.900	23.775
-6.798	*****	-.900	23.336
-6.544	21.722		
-6.291	22.541		
-6.037	22.979		
-5.784	23.814		
-1.650	24.252		
-1.650	24.595		
-1.650	24.530		
-1.650	23.967		
-.900	23.797		
-.900	24.333		
-.900	24.148		
-.900	23.502		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 6
THROTTLE:079

TEST ID:870909010

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	634.309	28.312	
1	2	5.996	1.16	630.056	26.456	
1	3	5.996	2.32	628.538	26.374	
1	4	5.996	3.48	632.961	28.837	
1	5	5.996	4.65	634.752	29.476	
1	6	5.996	5.81	636.009	29.553	
1	7	5.996	6.97	630.924	29.819	
1	8	5.996	8.13	634.568	29.815	
1	9	5.996	9.29	632.892	30.096	
1	10	5.996	10.45	636.361	29.039	
1	AVG			633.354	28.945	
2	1	6.387	0.00	636.241	27.642	
2	2	6.387	1.16	635.702	27.430	
2	3	6.387	2.32	632.813	27.827	
2	4	6.387	3.48	639.513	29.470	
2	5	6.387	4.65	639.980	29.891	
2	6	6.387	5.81	640.001	30.002	
2	7	6.387	6.97	635.955	30.118	
2	8	6.387	8.13	637.856	30.050	
2	9	6.387	9.29	635.611	30.311	
2	10	6.387	10.45	639.638	28.706	
2	AVG			637.436	29.251	
3	1	6.755	0.00	640.133	27.642	
3	2	6.755	1.16	639.062	26.923	
3	3	6.755	2.32	638.162	27.031	
3	4	6.755	3.48	642.265	29.164	
3	5	6.755	4.65	643.731	29.533	
3	6	6.755	5.81	643.438	29.968	
3	7	6.755	6.97	637.302	30.048	
3	8	6.755	8.13	640.182	30.216	
3	9	6.755	9.29	636.991	30.442	
3	10	6.755	10.45	641.516	29.099	
3	AVG			640.323	29.162	
4	1	7.104	0.00	648.501	27.688	
4	2	7.104	1.16	644.777	26.240	
4	3	7.104	2.32	637.475	26.559	
4	4	7.104	3.48	645.392	28.867	
4	5	7.104	4.65	647.965	29.574	
4	6	7.104	5.81	646.115	29.992	
4	7	7.104	6.97	641.442	30.212	
4	8	7.104	8.13	645.196	30.426	
4	9	7.104	9.29	642.486	31.021	
4	10	7.104	10.45	650.674	29.688	
4	AVG			645.135	29.276	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 6
THROTTLE:079

TEST ID:870909010

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	660.858	28.246	
5	2	7.437	1.16	652.292	26.223	
5	3	7.437	2.32	641.041	26.748	
5	4	7.437	3.48	649.896	29.079	
5	5	7.437	4.65	647.918	29.922	
5	6	7.437	5.81	647.518	30.432	
5	7	7.437	6.97	647.372	31.047	
5	8	7.437	8.13	656.998	31.469	
5	9	7.437	9.29	654.098	31.976	
5	10	7.437	10.45	667.438	30.102	
5	AVG			652.803	29.840	
6	1	7.756	0.00	677.319	28.139	
6	2	7.756	1.16	660.908	26.177	
6	3	7.756	2.32	647.899	26.715	
6	4	7.756	3.48	655.912	28.561	
6	5	7.756	4.65	656.987	30.538	
6	6	7.756	5.81	658.137	31.561	
6	7	7.756	6.97	660.261	31.730	
6	8	7.756	8.13	669.092	31.757	
6	9	7.756	9.29	669.299	32.073	
6	10	7.756	10.45	688.230	30.588	
6	AVG			664.967	30.181	
7	1	8.062	0.00	688.129	28.024	
7	2	8.062	1.16	673.720	27.172	
7	3	8.062	2.32	662.806	27.747	
7	4	8.062	3.48	669.740	29.476	
7	5	8.062	4.65	670.978	30.783	
7	6	8.062	5.81	671.505	31.788	
7	7	8.062	6.97	673.144	31.355	
7	8	8.062	8.13	679.750	31.508	
7	9	8.062	9.29	680.322	31.937	
7	10	8.062	10.45	695.917	31.207	
7	AVG			676.854	30.354	
8	1	8.356	0.00	699.094	29.230	
8	2	8.356	1.16	688.629	28.904	
8	3	8.356	2.32	678.474	29.901	
8	4	8.356	3.48	686.842	30.643	
8	5	8.356	4.65	684.710	30.783	
8	6	8.356	5.81	689.326	31.770	
8	7	8.356	6.97	687.632	31.700	
8	8	8.356	8.13	693.264	31.465	
8	9	8.356	9.29	693.106	31.985	
8	10	8.356	10.45	698.503	31.854	
8	AVG			690.008	30.908	

COMPRESSOR CONFIGURATION:PBS
 NOMINAL % DESIGN SPEED:095
 PERFORMANCE:

SCAN: 2
 THROTTLE:000

TEST ID:870904003

MEAS. WORK =1450.40 ISEN. EFFIC.= 88.458 POLYTROPIC EFFIC.=89.348
 MEAS. FLOWR.= 41.143 CORR. FLOWR.= 59.611 COMPUTED FLOWRATE=57.625
 MEASURED RPM=19500.0 CORR. RPM =19181.7 % DESIGN RPM = 94.85
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.351 PRESSURE RATIO = 1.770
 D.P. TEMP. =450.363 P. COR. FAC.= 1.425 TEMP. COR. FACT. = .968
 ATMOS. PRES.= 14.369 ATM.FRES.(S)= 14.368 REL. HUMIDITY = .031
 CALIBRATION PRESSURES (SONIX)= 9.0043 14.3688 29.3794

VENTURI PRESSURES:

INLET (AVG=11.450,SONIX=11.448)= 11.449 11.452 11.447 11.451
 THROAT (AVG=10.202,SONIX=10.202)= 10.198 10.195 10.198 10.195
 10.206 10.205 10.204 10.205
 10.205 10.205 10.207 10.206

PLENUM CONDITIONS:

PRESSURES (AVG=10.310,SONIX=10.298)= 10.313 10.307
 TEMPERATURES (AVG=536.07)= 535.92 536.45 535.78 535.63 536.81
 536.69 535.36 535.07 536.89

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 25.366 26.047 25.805 ***** 26.270 ***** 26.857
 27.147 27.343
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 637.47 614.56 ***** 622.24 625.53 ***** *****
 621.73 621.62

STATIC PRESSURES (CORRECTED):

----CASING---- ----HUB-----

X	P	X	P
-8.571	10.732	-5.125	15.295
-8.400	10.653	-5.125	15.130
-8.400	10.744	-5.125	15.520
-8.400	10.715	-5.125	15.117
-8.400	10.589	-1.650	18.127
-8.318	10.571	-1.650	18.799
-8.065	10.416	-1.650	18.604
-7.811	10.497	-1.650	17.660
-7.558	12.175	-.900	17.870
-7.304	*****	-.900	18.627
-7.051	12.757	-.900	18.649
-6.798	*****	-.900	18.039
-6.544	16.625		
-6.291	18.242		
-6.037	19.210		
-5.784	19.988		
-1.650	19.912		
-1.650	20.386		
-1.650	20.349		
-1.650	19.770		
-.900	19.130		
-.900	19.625		
-.900	19.429		
-.900	18.755		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 2
THROTTLE:000

TEST ID:870904003

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	624.852	24.839	
1	2	5.996	1.16	620.676	23.746	
1	3	5.996	2.32	616.733	25.404	
1	4	5.996	3.48	620.111	26.840	
1	5	5.996	4.65	618.430	27.380	
1	6	5.996	5.81	619.871	27.558	
1	7	5.996	6.97	621.180	27.557	
1	8	5.996	8.13	621.690	27.620	
1	9	5.996	9.29	621.528	27.737	
1	10	5.996	10.45	622.524	26.489	
1	AVG			620.737	26.627	
2	1	6.387	0.00	614.035	25.037	
2	2	6.387	1.16	613.589	26.552	
2	3	6.387	2.32	615.527	26.646	
2	4	6.387	3.48	617.191	26.620	
2	5	6.387	4.65	619.036	26.831	
2	6	6.387	5.81	619.548	26.942	
2	7	6.387	6.97	619.311	26.978	
2	8	6.387	8.13	618.791	27.211	
2	9	6.387	9.29	618.097	27.177	
2	10	6.387	10.45	619.369	25.443	
2	AVG			617.484	26.573	
3	1	6.755	0.00	613.796	25.475	
3	2	6.755	1.16	613.134	26.321	
3	3	6.755	2.32	614.438	26.392	
3	4	6.755	3.48	617.531	26.376	
3	5	6.755	4.65	616.622	26.288	
3	6	6.755	5.81	619.355	26.582	
3	7	6.755	6.97	616.643	26.503	
3	8	6.755	8.13	617.958	26.722	
3	9	6.755	9.29	616.652	26.996	
3	10	6.755	10.45	619.306	25.330	
3	AVG			616.546	26.314	
4	1	7.104	0.00	614.043	25.633	
4	2	7.104	1.16	613.068	26.054	
4	3	7.104	2.32	613.829	26.008	
4	4	7.104	3.48	617.869	26.161	
4	5	7.104	4.65	618.394	26.354	
4	6	7.104	5.81	620.122	26.611	
4	7	7.104	6.97	619.322	26.608	
4	8	7.104	8.13	618.430	26.745	
4	9	7.104	9.29	618.945	26.898	
4	10	7.104	10.45	620.542	25.179	
4	AVG			617.474	26.242	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 2
THROTTLE:000

TEST ID:870904003

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	617.502	25.699	
5	2	7.437	1.16	616.692	26.377	
5	3	7.437	2.32	619.054	26.671	
5	4	7.437	3.48	622.173	26.562	
5	5	7.437	4.65	622.311	26.596	
5	6	7.437	5.81	621.129	26.598	
5	7	7.437	6.97	620.190	26.315	
5	8	7.437	8.13	620.860	26.591	
5	9	7.437	9.29	619.661	26.633	
5	10	7.437	10.45	622.048	25.146	
5	AVG			620.160	26.333	
6	1	7.756	0.00	621.555	26.162	
6	2	7.756	1.16	620.078	26.864	
6	3	7.756	2.32	621.350	26.734	
6	4	7.756	3.48	622.410	26.575	
6	5	7.756	4.65	624.379	26.576	
6	6	7.756	5.81	624.646	26.834	
6	7	7.756	6.97	624.518	26.623	
6	8	7.756	8.13	625.185	26.835	
6	9	7.756	9.29	625.163	26.945	
6	10	7.756	10.45	627.495	25.116	
6	AVG			623.641	26.545	
7	1	8.062	0.00	633.261	24.544	
7	2	8.062	1.16	626.804	26.487	
7	3	8.062	2.32	625.262	26.581	
7	4	8.062	3.48	628.086	26.372	
7	5	8.062	4.65	630.466	26.209	
7	6	8.062	5.81	633.742	26.573	
7	7	8.062	6.97	634.613	26.117	
7	8	8.062	8.13	635.676	26.260	
7	9	8.062	9.29	635.029	26.098	
7	10	8.062	10.45	638.549	24.833	
7	AVG			632.026	26.043	
8	1	8.356	0.00	639.459	25.003	
8	2	8.356	1.16	634.097	26.077	
8	3	8.356	2.32	636.160	25.908	
8	4	8.356	3.48	639.454	25.608	
8	5	8.356	4.65	642.312	25.248	
8	6	8.356	5.81	645.169	25.631	
8	7	8.356	6.97	646.624	25.309	
8	8	8.356	8.13	647.113	25.615	
8	9	8.356	9.29	646.513	25.701	
8	10	8.356	10.45	648.612	25.060	
8	AVG			642.475	25.525	

COMPRESSOR CONFIGURATION:PBS

SCAN: 7

TEST ID:870909012

NOMINAL % DESIGN SPEED:095

THROTTLE:005

PERFORMANCE:

MEAS. WORK =1422.40 ISEN. EFFIC.= 90.388 POLYTROPIC EFFIC.=91.167
 MEAS. FLOWR.= 38.112 CORR. FLOWR.= 59.060 COMPUTED FLOWRATE=57.361
 MEASURED RPM=19694.0 CORR. RPM =19209.2 % DESIGN RPM = 94.99
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.352 PRESSURE RATIO = 1.825
 D.P. TEMP. =484.555 P. COR. FAC.= 1.511 TEMP. COR. FACT. = .951
 ATMOS. PRES.= 14.253 ATM.PRES.(S)= 14.255 REL. HUMIDITY = .109
 CALIBRATION PRESSURES (SONIX)= 9.0022 14.2555 29.2595

VENTURI PRESSURES:

INLET (AVG=10.788,SONIX=10.788)= 10.789 10.790 10.787 10.787
 THROAT (AVG= 9.628,SONIX= 9.628)= 9.626 9.616 9.626 9.616
 9.632 9.630 9.632 9.631
 9.630 9.630 9.631 9.632

PLENUM CONDITIONS:

PRESSURES (AVG= 9.722,SONIX= 9.713)= 9.728 9.715
 TEMPERATURES (AVG=545.22)= 545.36 545.51 544.66 544.81 545.77
 545.77 544.40 544.54 546.15

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 26.984 27.411 26.597 ***** 26.926 ***** 27.237
 27.397 27.555
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 645.19 617.49 ***** 623.23 632.28 ***** *****
 621.65 623.94

STATIC PRESSURES (CORRECTED):

----CASING---- ----HUB----

X	P	X	P
-8.571	10.786	-5.125	15.762
-8.400	10.705	-5.125	15.633
8.400	10.804	-5.125	16.015
8.400	10.778	-5.125	15.611
-8.400	10.686	-1.650	19.610
-8.318	10.617	-1.650	20.114
-8.065	10.465	-1.650	20.006
-7.811	10.659	-1.650	19.128
-7.558	12.536	-.900	19.336
-7.304	*****	-.900	20.060
-7.051	13.978	-.900	20.039
-6.798	*****	-.900	19.519
-6.544	18.058		
6.291	19.226		
-6.037	20.235		
-5.784	20.958		
-1.650	21.110		
-1.650	21.580		
-1.650	21.567		
-1.650	20.896		
-.900	20.397		
-.900	20.865		
-.900	20.765		
-.900	20.035		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 7
THROTTLE:005

TEST ID:870909012

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	625.291	25.456	
1	2	5.996	1.16	619.029	24.689	
1	3	5.996	2.32	618.801	26.352	
1	4	5.996	3.48	622.285	27.188	
1	5	5.996	4.65	619.600	27.462	
1	6	5.996	5.81	621.653	27.662	
1	7	5.996	6.97	616.884	27.598	
1	8	5.996	8.13	621.324	27.726	
1	9	5.996	9.29	618.275	27.906	
1	10	5.996	10.45	623.640	27.018	
1	VG			620.636	26.982	
2		6.387	0.00	617.861	24.833	
2		6.387	1.16	617.431	26.477	
2		6.387	2.32	617.543	27.155	
2	4	6.387	3.48	621.778	27.057	
2	5	6.387	4.65	621.681	27.213	
2	6	6.387	5.81	622.274	27.379	
2	7	6.387	6.97	616.816	27.324	
2	8	6.387	8.13	620.814	27.584	
2	9	6.387	9.29	617.457	27.546	
2	10	6.387	10.45	621.741	26.212	
2	AVG			619.559	26.925	
3	1	6.755	0.00	617.693	25.413	
3	2	6.755	1.16	619.316	26.856	
3	3	6.755	2.32	617.732	26.944	
3	4	6.755	3.48	621.208	26.720	
3	5	6.755	4.65	619.676	26.769	
3	6	6.755	5.81	621.948	27.003	
3	7	6.755	6.97	615.704	27.094	
3	8	6.755	8.13	620.446	27.272	
3	9	6.755	9.29	616.536	27.496	
3	10	6.755	10.45	622.479	26.090	
3	AVG			619.254	26.790	
4	1	7.104	0.00	619.012	25.587	
4	2	7.104	1.16	619.398	26.808	
4	3	7.104	2.32	612.542	26.833	
4	4	7.104	3.48	621.879	26.803	
4	5	7.104	4.65	622.499	26.972	
4	6	7.104	5.81	623.111	27.287	
4	7	7.104	6.97	619.310	27.029	
4	8	7.104	8.13	622.126	27.307	
4	9	7.104	9.29	617.763	27.427	
4	10	7.104	10.45	624.751	25.798	
4	AVG			620.412	26.811	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 7
THROTTLE:005

TEST ID:870909012

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	621.900	25.928	
5	2	7.437	1.16	621.741	26.887	
5	3	7.437	2.32	619.774	27.021	
5	4	7.437	3.48	626.406	27.366	
5	5	7.437	4.65	623.981	27.238	
5	6	7.437	5.81	627.095	27.379	
5	7	7.437	6.97	619.817	27.292	
5	8	7.437	8.13	625.194	27.580	
5	9	7.437	9.29	622.894	27.675	
5	10	7.437	10.45	627.335	26.111	
5	AVG			623.610	27.071	
6	1	7.756	0.00	627.875	25.575	
6	2	7.756	1.16	629.152	27.819	
6	3	7.756	2.32	621.765	27.898	
6	4	7.756	3.48	630.374	27.606	
6	5	7.756	4.65	626.757	27.723	
6	6	7.756	5.81	630.152	27.892	
6	7	7.756	6.97	626.316	27.786	
6	8	7.756	8.13	631.058	28.027	
6	9	7.756	9.29	627.510	28.052	
6	10	7.756	10.45	635.330	26.240	
6	AVG			628.556	27.509	
7	1	8.062	0.00	638.908	25.351	
7	2	8.062	1.16	635.289	27.744	
7	3	8.062	2.32	623.767	27.782	
7	4	8.062	3.48	631.357	27.481	
7	5	8.062	4.65	633.339	27.409	
7	6	8.062	5.81	639.010	28.017	
7	7	8.062	6.97	635.385	27.436	
7	8	8.062	8.13	641.692	27.512	
7	9	8.062	9.29	636.471	27.372	
7	10	8.062	10.45	647.016	25.946	
7	AVG			636.013	27.257	
8	1	8.356	0.00	645.859	26.118	
8	2	8.356	1.16	639.966	27.474	
8	3	8.356	2.32	636.294	27.330	
8	4	8.356	3.48	644.690	27.048	
8	5	8.356	4.65	648.001	27.409	
8	6	8.356	5.81	652.800	26.987	
8	7	8.356	6.97	650.068	26.766	
8	8	8.356	8.13	654.152	26.916	
8	9	8.356	9.29	650.532	27.212	
8	10	8.356	10.45	652.315	26.343	
8	AVG			647.373	26.975	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 8
THROTTLE:015

TEST ID:870909013

PERFORMANCE:

MEAS. WORK =1420.96 ISEN. EFFIC.= 90.438 POLYTROPIC EFFIC.=91.222
MEAS. FLOWR.= 37.548 CORR. FLOWR.= 58.839 COMPUTED FLOWRATE=57.215
MEASURED RPM=19684.0 CORR. RPM =19200.7 % DESIGN RPM = 94.95
SPEC. HEAT = 1.400 GAS CONSTANT= 53.352 PRESSURE RATIO = 1.839
D.P. TEMP. =484.003 P. COR. FAC.= 1.529 TEMP. COR. FACT. = .951
ATMOS. PRES.= 14.253 ATM.PRES.(S)= 14.255 REL. HUMIDITY = .107
CALIBRATION PRESSURES (SONIX)= 9.0029 14.2549 29.2561

VENTURI PRESSURES:

INLET (AVG=10.658,SONIX=10.657)= 10.660 10.657 10.664 10.653
THROAT (AVG= 5.519,SONIX= 9.522)= 9.521 9.515 9.521 9.515
9.521 9.520 9.520 9.520
9.518 9.518 9.521 9.521

PLENUM CONDITIONS:

PRESSURES (AVG= 9.613,SONIX= 9.602)= 9.620 9.606
TEMPERATURES (AVG=545.15)= 545.41 545.56 544.71 544.86 545.41
545.56 544.42 544.56 545.85

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
PRESSURE = 27.426 27.622 26.799 ***** 27.260 ***** 27.522
27.423 27.625
RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
TEMPERATURE= 647.40 617.77 ***** 622.60 633.28 *****
621.70 625.24

STATIC PRESSURES (CORRECTED):

----CASING-----HUB-----

X	P	X	P
-8.571	10.813	-5.125	15.896
-8.400	10.745	-5.125	15.764
-8.400	10.810	-5.125	16.152
-8.400	10.813	-5.125	15.741
-8.400	10.716	-1.650	19.954
-8.318	10.664	-1.650	20.439
-8.065	10.506	-1.650	20.325
-7.811	10.705	-1.650	19.484
-7.558	12.664	-.900	19.694
-7.304	*****	-.900	20.395
-7.051	14.661	-.900	20.382
-6.798	*****	-.900	19.878
-6.544	18.608		
-6.291	19.531		
-6.037	20.425		
-5.784	21.177		
-1.650	21.420		
-1.650	21.888		
-1.650	21.868		
-1.650	21.172		
-.900	20.721		
-.900	21.176		
-.900	21.077		
-.900	20.320		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 8
THROTTLE:015

TEST ID:870909013

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	624.860	25.742	
1	2	5.996	1.16	618.876	24.863	
1	3	5.996	2.32	619.412	26.503	
1	4	5.996	3.48	622.983	27.300	
1	5	5.996	4.65	620.326	27.484	
1	6	5.996	5.81	621.882	27.705	
1	7	5.996	6.97	618.256	27.611	
1	8	5.996	8.13	622.176	27.766	
1	9	5.996	9.29	618.017	27.953	
1	10	5.996	10.45	623.727	27.112	
1	AVG			621.036	27.073	
2	1	6.387	0.00	618.483	24.879	
2	2	6.387	1.16	618.515	26.499	
2	3	6.387	2.32	618.242	27.081	
2	4	6.387	3.48	622.456	27.172	
2	5	6.387	4.65	622.146	27.303	
2	6	6.387	5.81	622.973	27.465	
2	7	6.387	6.97	618.071	27.449	
2	8	6.387	8.13	621.435	27.659	
2	9	6.387	9.29	617.947	27.659	
2	10	6.387	10.45	622.024	26.276	
2	AVG			620.255	26.995	
3	1	6.755	0.00	619.584	25.383	
3	2	6.755	1.16	619.426	26.967	
3	3	6.755	2.32	617.342	27.044	
3	4	6.755	3.48	622.266	26.960	
3	5	6.755	4.65	620.500	26.885	
3	6	6.755	5.81	622.197	27.241	
3	7	6.755	6.97	616.347	27.231	
3	8	6.755	8.13	621.892	27.409	
3	9	6.755	9.29	617.256	27.561	
3	10	6.755	10.45	623.184	26.491	
3	AVG			620.029	26.944	
4	1	7.104	0.00	619.781	25.436	
4	2	7.104	1.16	621.067	26.860	
4	3	7.104	2.32	613.305	26.897	
4	4	7.104	3.48	622.906	26.797	
4	5	7.104	4.65	623.571	27.375	
4	6	7.104	5.81	624.260	27.459	
4	7	7.104	6.97	621.037	27.364	
4	8	7.104	8.13	624.244	27.661	
4	9	7.104	9.29	618.749	27.636	
4	10	7.104	10.45	624.844	25.974	
4	AVG			621.380	26.984	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 8
THROTTLE:015

TEST ID:870909013

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	625.085	25.879	
5	2	7.437	1.16	622.689	27.060	
5	3	7.437	2.32	619.157	27.229	
5	4	7.437	3.48	627.108	27.564	
5	5	7.437	4.65	626.033	27.357	
5	6	7.437	5.81	627.607	27.690	
5	7	7.437	6.97	621.331	27.294	
5	8	7.437	8.13	626.588	27.734	
5	9	7.437	9.29	623.495	28.002	
5	10	7.437	10.45	629.739	26.351	
5	AVG			624.856	27.245	
6	1	7.756	0.00	630.414	25.488	
6	2	7.756	1.16	630.548	27.977	
6	3	7.756	2.32	623.854	28.114	
6	4	7.756	3.48	632.636	27.942	
6	5	7.756	4.65	628.794	27.814	
6	6	7.756	5.81	632.009	28.142	
6	7	7.756	6.97	626.579	28.038	
6	8	7.756	8.13	632.661	28.348	
6	9	7.756	9.29	628.815	28.312	
6	10	7.756	10.45	637.011	26.595	
6	AVG			630.253	27.733	
7	1	8.062	0.00	641.272	25.519	
7	2	8.062	1.16	637.246	27.920	
7	3	8.062	2.32	625.520	28.050	
7	4	8.062	3.48	633.515	27.727	
7	5	8.062	4.65	635.175	27.790	
7	6	8.062	5.81	640.096	28.215	
7	7	8.062	6.97	637.494	27.710	
7	8	8.062	8.13	643.239	27.906	
7	9	8.062	9.29	638.431	27.781	
7	10	8.062	10.45	648.373	26.237	
7	AVG			637.821	27.540	
8	1	8.356	0.00	648.512	26.382	
8	2	8.356	1.16	642.437	27.699	
8	3	8.356	2.32	637.325	27.704	
8	4	8.356	3.48	645.715	27.412	
8	5	8.356	4.65	649.644	27.790	
8	6	8.356	5.81	654.344	27.341	
8	7	8.356	6.97	653.423	27.036	
8	8	8.356	8.13	656.556	27.253	
8	9	8.356	9.29	652.535	27.589	
8	10	8.356	10.45	654.079	26.719	
8	AVG			649.355	27.308	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 9
THROTTLE:035

TEST ID:870909015

PERFORMANCE:

MEAS. WORK =1422.90 ISEN. EFFIC.= 89.561 POLYTROPIC EFFIC.=90.431
MEAS. FLOWR.= 36.351 CORR. FLOWR.= 57.712 COMPUTED FLOWRATE=56.389
MEASURED RPM=19680.0 CORR. RPM =19200.0 % DESIGN RPM = 94.94
SPEC. HEAT = 1.400 GAS CONSTANT= 53.352 PRESSURE RATIO = 1.859
D.P. TEMP. =483.078 P. COR. FAC.= 1.549 TEMP. COR. FACT. = .952
ATMOS. PRES.= 14.255 ATM.PRES.(S)= 14.255 REL. HUMIDITY = .103
CALIBRATION PRESSURES (SONIX)= 9.0024 14.2549 29.2578

VENTURI PRESSURES:

INLET (AVG=10.474,SONIX=10.477)= 10.472 10.477 10.474 10.473
THROAT (AVG= 9.393,SONIX= 9.394)= 9.393 9.389 9.393 9.389
9.395 9.394 9.394 9.395
9.394 9.394 9.394 9.395

PLENUM CONDITIONS:

PRESSURES (AVG= 9.487,SONIX= 9.468)= 9.490 9.484
TEMPERATURES (AVG=544.97)= 545.18 545.18 544.77 544.48 545.18
545.18 544.19 544.48 546.06

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
PRESSURE = 28.142 28.055 27.045 ***** 27.322 ***** 27.697
27.467 27.687
RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
TEMPERATURE= 653.83 621.25 ***** 624.84 635.08 *****
621.94 624.82

STATIC PRESSURES (CORRECTED):

----CASING---- -----HUB-----

X	P	X	P
-8.571	10.972	-5.125	16.185
-8.400	10.937	-5.125	16.070
-8.400	10.936	-5.125	16.449
-8.400	11.003	-5.125	16.044
-8.400	10.952	-1.650	20.667
-8.318	10.831	-1.650	21.087
-8.065	10.693	-1.650	21.010
-7.811	11.119	-1.650	20.200
-7.558	14.066	-.900	20.420
-7.304	*****	-.900	21.105
-7.051	15.812	-.900	21.077
-6.798	*****	-.900	20.610
-6.544	19.156		
-6.291	19.898		
-6.037	20.732		
-5.784	21.545		
-1.650	21.948		
-1.650	22.447		
-1.650	22.399		
-1.650	21.704		
-.900	21.326		
-.900	21.769		
-.900	21.698		
-.900	20.917		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 9
THROTTLE:035

TEST ID:870909015

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	623.772	26.127	
1	2	5.996	1.16	617.534	25.019	
1	3	5.996	2.32	619.243	26.323	
1	4	5.996	3.48	622.915	27.415	
1	5	5.996	4.65	620.125	27.547	
1	6	5.996	5.81	621.695	27.754	
1	7	5.996	6.97	618.924	27.699	
1	8	5.996	8.13	622.060	27.794	
1	9	5.996	9.29	619.660	28.050	
1	10	5.996	10.45	624.894	27.374	
1	AVG			621.130	27.180	
2	1	6.387	0.00	618.635	25.096	
2	2	6.387	1.16	620.358	26.573	
2	3	6.387	2.32	621.334	27.262	
2	4	6.387	3.48	623.694	27.494	
2	5	6.387	4.65	622.884	27.420	
2	6	6.387	5.81	622.376	27.739	
2	7	6.387	6.97	619.477	27.576	
2	8	6.387	8.13	622.384	27.784	
2	9	6.387	9.29	620.311	27.794	
2	10	6.387	10.45	622.232	26.375	
2	AVG			621.423	27.167	
3	1	6.755	0.00	622.590	25.417	
3	2	6.755	1.16	619.729	26.557	
3	3	6.755	2.32	620.613	27.325	
3	4	6.755	3.48	623.276	27.304	
3	5	6.755	4.65	622.283	27.396	
3	6	6.755	5.81	625.026	27.430	
3	7	6.755	6.97	620.176	27.482	
3	8	6.755	8.13	622.223	27.710	
3	9	6.755	9.29	618.580	27.821	
3	10	6.755	10.45	624.685	26.899	
3	AVG			621.896	27.172	
4	1	7.104	0.00	625.522	25.431	
4	2	7.104	1.16	621.975	27.186	
4	3	7.104	2.32	615.887	27.388	
4	4	7.104	3.48	624.225	27.076	
4	5	7.104	4.65	623.599	27.315	
4	6	7.104	5.81	625.163	27.692	
4	7	7.104	6.97	623.673	27.696	
4	8	7.104	8.13	626.474	28.099	
4	9	7.104	9.29	623.136	28.110	
4	10	7.104	10.45	626.454	26.880	
4	AVG			623.578	27.332	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 9
THROTTLE:035

TEST ID:870909015

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	628.055	25.844	
5	2	7.437	1.16	625.087	27.440	
5	3	7.437	2.32	620.858	27.628	
5	4	7.437	3.48	627.627	27.491	
5	5	7.437	4.65	627.181	27.670	
5	6	7.437	5.81	631.601	28.291	
5	7	7.437	6.97	626.387	27.739	
5	8	7.437	8.13	629.064	28.125	
5	9	7.437	9.29	626.191	28.235	
5	10	7.437	10.45	631.651	26.967	
5	AVG			627.355	27.581	
6	1	7.756	0.00	641.412	25.585	
6	2	7.756	1.16	631.187	27.597	
6	3	7.756	2.32	626.440	28.201	
6	4	7.756	3.48	633.169	28.194	
6	5	7.756	4.65	632.341	28.168	
6	6	7.756	5.81	635.117	28.517	
6	7	7.756	6.97	632.799	28.472	
6	8	7.756	8.13	637.883	28.601	
6	9	7.756	9.29	634.415	28.658	
6	10	7.756	10.45	643.591	26.965	
6	AVG			634.618	27.964	
7	1	8.062	0.00	651.935	25.778	
7	2	8.062	1.16	641.651	27.657	
7	3	8.062	2.32	631.202	28.440	
7	4	8.062	3.48	637.471	27.930	
7	5	8.062	4.65	638.990	28.038	
7	6	8.062	5.81	642.539	28.428	
7	7	8.062	6.97	643.497	28.182	
7	8	8.062	8.13	648.895	28.423	
7	9	8.062	9.29	644.984	28.432	
7	10	8.062	10.45	654.587	27.243	
7	AVG			643.310	27.907	
8	1	8.356	0.00	654.556	26.847	
8	2	8.356	1.16	648.326	27.985	
8	3	8.356	2.32	644.562	28.049	
8	4	8.356	3.48	649.855	27.793	
8	5	8.356	4.65	654.333	28.038	
8	6	8.356	5.81	657.837	27.671	
8	7	8.356	6.97	656.465	27.533	
8	8	8.356	8.13	660.820	27.825	
8	9	8.356	9.29	658.525	28.176	
8	10	8.356	10.45	659.863	27.302	
8	AVG			654.450	27.734	

COMPRESSOR CONFIGURATION:PBS

SCAN: 10

TEST ID:870909017

NOMINAL % DESIGN SPEED:095

THROTTLE:055

PERFORMANCE:

MEAS. WORK =1422.47 ISEN. EFFIC.= 87.410 POLYTROPIC EFFIC.=88.473
 MEAS. FLOWR.= 34.991 CORR. FLOWR.= 56.132 COMPUTED FLOWRATE=54.849
 MEASURED RPM=19670.0 CORR. RPM =19201.2 % DESIGN RPM = 94.95
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.352 PRESSURE RATIO = 1.875
 D.P. TEMP. =482.213 P. COR. FAC.= 1.566 TEMP. COR. FACT. = .953
 ATMOS. PRES.= 14.255 ATM.PRES.(S)= 14.256 REL. HUMIDITY = .102
 CALIBRATION PRESSURES (SONIX)= 9.0022 14.2562 29.2569

VENTURI PRESSURES:

INLET (AVG=10.309,SONIX=10.309)= 10.313 10.310 10.307 10.307
 THROAT (AVG= 9.301,SONIX= 9.303)= 9.298 9.298 9.298 9.298
 9.302 9.302 9.300 9.302
 9.301 9.301 9.303 9.303

PLENUM CONDITIONS:

PRESSURES (AVG= 9.383,SONIX= 9.367)= 9.381 9.385
 TEMPERATURES (AVG=544.35)= 544.69 544.69 544.10 543.95 544.39
 544.39 543.54 543.95 545.42

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 28.631 28.497 27.444 ***** 28.096 ***** 27.981
 27.657 27.864
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 660.89 622.59 ***** 626.63 638.27 ***** *****
 622.71 629.24

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	11.322	-5.125	16.469
-8.400	11.326	-5.125	16.336
-8.400	11.407	-5.125	16.710
-8.400	11.476	-5.125	16.317
-8.400	11.355	-1.650	21.402
-8.318	11.238	-1.650	21.716
-8.065	11.012	-1.650	21.711
-7.811	11.605	-1.650	20.973
-7.558	15.700	-.900	21.206
-7.304	*****	-.900	21.785
-7.051	16.979	-.900	21.792
-6.798	*****	-.900	21.394
-6.544	19.909		
-6.291	20.516		
-6.037	21.144		
-5.784	21.941		
-1.650	22.533		
-1.650	22.933		
-1.650	22.911		
-1.650	22.283		
-.900	21.973		
-.900	22.403		
-.900	22.345		
-.900	21.624		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 10
THROTTLE:055

TEST ID:870909017

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	623.171	26.485	
1	2	5.996	1.16	616.650	25.226	
1	3	5.996	2.32	620.070	25.908	
1	4	5.996	3.48	623.656	27.517	
1	5	5.996	4.65	621.955	27.662	
1	6	5.996	5.81	623.178	27.941	
1	7	5.996	6.97	619.090	27.858	
1	8	5.996	8.13	623.270	27.929	
1	9	5.996	9.29	620.140	28.242	
1	10	5.996	10.45	625.142	27.496	
1	AVG			621.741	27.309	
2	1	6.387	0.00	622.029	25.585	
2	2	6.387	1.16	622.245	26.586	
2	3	6.387	2.32	623.855	26.982	
2	4	6.387	3.48	627.698	27.795	
2	5	6.387	4.65	624.474	27.757	
2	6	6.387	5.81	625.424	27.962	
2	7	6.387	6.97	620.532	27.904	
2	8	6.387	8.13	624.656	28.090	
2	9	6.387	9.29	621.789	28.097	
2	10	6.387	10.45	624.103	26.606	
2	AVG			623.718	27.395	
3	1	6.755	0.00	624.655	25.844	
3	2	6.755	1.16	622.499	25.910	
3	3	6.755	2.32	624.336	26.784	
3	4	6.755	3.48	627.400	27.638	
3	5	6.755	4.65	625.910	27.613	
3	6	6.755	5.81	626.413	27.892	
3	7	6.755	6.97	620.606	27.786	
3	8	6.755	8.13	625.601	28.046	
3	9	6.755	9.29	621.407	28.143	
3	10	6.755	10.45	626.845	27.197	
3	AVG			624.577	27.344	
4	1	7.104	0.00	628.741	25.834	
4	2	7.104	1.16	625.057	26.616	
4	3	7.104	2.32	620.083	27.120	
4	4	7.104	3.48	628.996	27.425	
4	5	7.104	4.65	626.236	27.724	
4	6	7.104	5.81	628.251	27.930	
4	7	7.104	6.97	625.052	27.987	
4	8	7.104	8.13	628.158	28.329	
4	9	7.104	9.29	622.950	28.441	
4	10	7.104	10.45	628.875	27.451	
4	AVG			626.211	27.538	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 10
THROTTLE:055

TEST ID:870909017

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	637.346	25.763	
5	2	7.437	1.16	629.607	27.069	
5	3	7.437	2.32	623.216	27.496	
5	4	7.437	3.48	629.898	27.780	
5	5	7.437	4.65	628.243	28.011	
5	6	7.437	5.81	632.561	28.386	
5	7	7.437	6.97	625.994	28.275	
5	8	7.437	8.13	634.499	28.594	
5	9	7.437	9.29	632.108	28.742	
5	10	7.437	10.45	640.395	27.408	
5	AVG			631.263	27.815	
6	1	7.756	0.00	649.109	26.202	
6	2	7.756	1.16	634.363	25.932	
6	3	7.756	2.32	629.854	27.148	
6	4	7.756	3.46	636.435	28.094	
6	5	7.756	4.65	634.695	28.404	
6	6	7.756	5.81	640.391	29.039	
6	7	7.756	6.97	635.847	28.726	
6	8	7.756	8.13	644.974	28.988	
6	9	7.756	9.29	642.356	28.975	
6	10	7.756	10.45	654.489	27.592	
6	AVG			640.216	28.013	
7	1	8.062	0.00	657.552	26.099	
7	2	8.062	1.16	647.398	26.370	
7	3	8.062	2.32	635.020	28.028	
7	4	8.062	3.48	642.848	28.340	
7	5	8.062	4.65	645.689	28.312	
7	6	8.062	5.81	651.134	28.854	
7	7	8.062	6.97	649.278	28.648	
7	8	8.062	8.13	655.710	28.872	
7	9	8.062	9.29	652.016	29.009	
7	10	8.062	10.45	663.494	27.718	
7	AVG			649.872	28.107	
8	1	8.356	0.00	666.961	26.914	
8	2	8.356	1.16	660.046	27.829	
8	3	8.356	2.32	647.495	28.368	
8	4	8.356	3.48	655.689	28.322	
8	5	8.356	4.65	660.023	28.312	
8	6	8.356	5.81	665.344	28.541	
8	7	8.356	6.97	663.322	28.197	
8	8	8.356	8.13	668.972	28.435	
8	9	8.356	9.29	666.023	28.807	
8	10	8.356	10.45	667.836	28.106	
8	AVG			662.102	28.203	

COMPRESSOR CONFIGURATION:PBS

SCAN: 11

TEST ID:870909018

NOMINAL % DESIGN SPEED:095

THROTTLE:065

PERFORMANCE:

MEAS. WORK =1421.82 ISEN. EFFIC.= 85.664 POLYTROPIC EFFIC.=86.877
 MEAS. FLOWR.= 34.224 CORR. FLOWR.= 55.076 COMPUTED FLOWRATE=53.710
 MEASURED RPM=19670.0 CORR. RPM =19208.2 % DESIGN RPM = 94.99
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.352 PRESSURE RATIO = 1.879
 D.P. TEMP. =481.896 P. COR. FAC.= 1.571 TEMP. COR. FACT. = .954
 ATMOS. PRES.= 14.254 ATM.PRES.(S)= 14.256 REL. HUMIDITY = .102
 CALIBRATION PRESSURES (SONIX)= 9.0020 14.2556 29.2564

VENTURI PRESSURES:

INLET (AVG=10.236,SONIX=10.237)= 10.237 10.232 10.237 10.239
 THROAT (AVG= 9.270,SONIX= 9.276)= 9.266 9.264 9.266 9.264
 9.272 9.272 9.273 9.273
 9.271 9.271 9.274 9.272

PLENUM CONDITIONS:

PRESSURES (AVG= 9.350,SONIX= 9.333)= 9.349 9.352
 TEMPERATURES (AVG=543.95)= 544.26 544.26 543.67 543.67 544.11
 543.96 543.11 543.55 544.96

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 28.553 28.744 27.669 ***** 27.867 ***** 27.993
 27.724 27.948
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 667.14 625.31 ***** 627.06 640.22 ***** *****
 623.14 629.01

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	11.559	-5.125	16.673
-8.400	11.553	-5.125	16.483
-8.400	11.657	-5.125	16.853
-8.400	11.741	-5.125	16.453
-8.400	11.580	-1.650	21.731
-8.318	11.472	-1.650	21.973
-8.065	11.218	-1.650	22.014
-7.811	11.862	-1.650	21.313
-7.558	16.651	-.900	21.569
-7.304	*****	-.900	22.106
-7.051	17.509	-.900	22.109
-6.798	*****	-.900	21.732
-6.544	20.334		
-6.291	21.023		
-6.037	21.418		
-5.784	22.245		
-1.650	22.782		
-1.650	23.132		
-1.650	23.092		
-1.650	22.487		
-.900	22.265		
-.900	22.696		
-.900	22.606		
-.900	21.947		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 11
THROTTLE:065

TEST ID:870909018

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	623.688	26.523	
1	2	5.996	1.16	618.780	25.209	
1	3	5.996	2.32	619.622	25.636	
1	4	5.996	3.48	623.117	27.431	
1	5	5.996	4.65	623.068	27.741	
1	6	5.996	5.81	624.159	27.991	
1	7	5.996	6.97	617.719	27.883	
1	8	5.996	8.13	623.696	28.027	
1	9	5.996	9.29	621.323	28.261	
1	10	5.996	10.45	625.453	27.471	
1	AVG			622.163	27.317	
2	1	6.387	0.00	623.699	25.855	
2	2	6.387	1.16	624.044	26.644	
2	3	6.387	2.32	625.236	26.999	
2	4	6.387	3.48	628.589	27.899	
2	5	6.387	4.65	626.187	27.973	
2	6	6.387	5.81	625.882	28.202	
2	7	6.387	6.97	622.425	28.109	
2	8	6.387	8.13	626.053	28.122	
2	9	6.387	9.29	622.236	28.195	
2	10	6.387	10.45	625.816	26.795	
2	AVG			625.034	27.538	
3	1	6.755	0.00	625.157	25.902	
3	2	6.755	1.16	624.026	25.561	
3	3	6.755	2.32	626.019	26.049	
3	4	6.755	3.48	629.263	27.748	
3	5	6.755	4.65	627.474	27.727	
3	6	6.755	5.81	628.108	27.901	
3	7	6.755	6.97	622.136	27.997	
3	8	6.755	8.13	626.603	28.300	
3	9	6.755	9.29	622.829	28.282	
3	10	6.755	10.45	628.133	27.385	
3	AVG			626.003	27.381	
4	1	7.104	0.00	630.246	26.064	
4	2	7.104	1.16	626.625	25.886	
4	3	7.104	2.32	622.642	26.372	
4	4	7.104	3.48	631.788	27.521	
4	5	7.104	4.65	628.032	27.666	
4	6	7.104	5.81	629.173	28.010	
4	7	7.104	6.97	625.812	28.084	
4	8	7.104	8.13	628.773	28.318	
4	9	7.104	9.29	625.034	28.622	
4	10	7.104	10.45	631.819	27.585	
4	AVG			628.012	27.494	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 11
THROTTLE:065

TEST ID:870909018

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	640.894	26.270	
5	2	7.437	1.16	631.744	25.990	
5	3	7.437	2.32	623.128	26.499	
5	4	7.437	3.48	633.448	27.908	
5	5	7.437	4.65	629.538	28.211	
5	6	7.437	5.81	632.531	28.620	
5	7	7.437	6.97	629.604	28.554	
5	8	7.437	8.13	638.808	28.944	
5	9	7.437	9.29	634.613	29.021	
5	10	7.437	10.45	644.473	27.808	
5	AVG			633.921	27.887	
6	1	7.756	0.00	653.525	26.170	
6	2	7.756	1.16	637.446	25.256	
6	3	7.756	2.32	630.199	26.504	
6	4	7.756	3.48	637.860	28.196	
6	5	7.756	4.65	636.121	28.527	
6	6	7.756	5.81	641.790	29.192	
6	7	7.756	6.97	642.420	28.989	
6	8	7.756	8.13	650.443	29.161	
6	9	7.756	9.29	647.057	29.203	
6	10	7.756	10.45	660.172	27.892	
6	AVG			643.849	28.081	
7	1	8.062	0.00	662.105	25.991	
7	2	8.062	1.16	650.848	25.905	
7	3	8.062	2.32	643.761	27.140	
7	4	8.062	3.48	647.511	28.439	
7	5	8.062	4.65	649.576	28.465	
7	6	8.062	5.81	653.362	29.150	
7	7	8.062	6.97	652.693	28.788	
7	8	8.062	8.13	660.858	29.050	
7	9	8.062	9.29	658.408	29.180	
7	10	8.062	10.45	669.691	27.993	
7	AVG			654.877	28.138	
8	1	8.356	0.00	673.831	26.859	
8	2	8.356	1.16	665.712	27.516	
8	3	8.356	2.32	652.953	28.414	
8	4	8.356	3.48	661.707	28.202	
8	5	8.356	4.65	661.889	28.465	
8	6	8.356	5.81	668.239	28.999	
8	7	8.356	6.97	666.300	28.546	
8	8	8.356	8.13	673.779	28.671	
8	9	8.356	9.29	670.979	29.013	
8	10	8.356	10.45	671.888	28.671	
8	AVG			666.668	28.370	

COMPRESSOR CONFIGURATION:PBS

SCAN: 12

TEST ID:870909019

NOMINAL % DESIGN SPEED:095

THROTTLE:075

PERFORMANCE:

MEAS. WORK =1418.01 ISEN. EFFIC.= 82.934 POLYTROPIC EFFIC.=84.372
 MEAS. FLOWR.= 33.158 CORR. FLOWR.= 53.342 COMPUTED FLOWRATE=52.072
 MEASURED RPM=19662.0 CORR. RPM =19206.6 % DESIGN RPM = 94.98
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.352 PRESSURE RATIO = 1.875
 D.P. TEMP. =481.493 P. COR. FAC.= 1.571 TEMP. COR. FACT. = .954
 ATMOS. PRES.= 14.255 ATM.PRES.(S)= 14.255 REL. HUMIDITY = .101
 CALIBRATION PRESSURES (SONIX)= 9.0021 14.2551 29.2568

VENTURI PRESSURES:

INLET (AVG=10.181,SONIX=10.184)= 10.183 10.176 10.182 10.183
 THROAT (AVG= 9.276,SONIX= 9.278)= 9.277 9.264 9.277 9.264
 9.281 9.279 9.280 9.279
 9.278 9.278 9.281 9.279

PLENUM CONDITIONS:

PRESSURES (AVG= 9.350,SONIX= 9.335)= 9.349 9.352
 TEMPERATURES (AVG=543.60)= 543.91 543.91 543.21 543.21 543.77
 543.62 542.77 543.21 544.76

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 28.809 28.843 27.867 ***** 27.883 ***** 28.447
 27.802 28.046
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 674.46 627.39 ***** 629.97 644.17 ***** *****
 623.03 630.10

STATIC PRESSURES (CORRECTED):

----CASING---- -----HUB-----

X	P	X	P
-8.571	11.922	-5.125	16.758
-8.400	11.892	-5.125	16.608
-8.400	12.012	-5.125	16.943
-8.400	12.051	-5.125	16.558
-8.400	11.928	-1.650	21.984
-8.318	11.853	-1.650	22.150
-8.065	11.620	-1.650	22.239
-7.811	12.272	-1.650	21.574
-7.558	17.501	-.900	21.840
-7.304	*****	-.900	22.319
-7.051	18.282	-.900	22.350
-6.798	*****	-.900	22.025
-6.544	20.757		
-6.291	21.404		
-6.037	21.618		
-5.784	22.297		
-1.650	22.952		
-1.650	23.233		
-1.650	23.152		
-1.650	22.633		
-.900	22.480		
-.900	22.891		
-.900	22.789		
-.900	22.174		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 12
THROTTLE:075

TEST ID:870909019

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	624.309	26.648	
1	2	5.996	1.16	618.162	25.189	
1	3	5.996	2.32	620.195	25.437	
1	4	5.996	3.48	623.250	27.477	
1	5	5.996	4.65	624.275	27.827	
1	6	5.996	5.81	625.124	28.076	
1	7	5.996	6.97	620.726	28.099	
1	8	5.996	8.13	624.769	28.057	
1	9	5.996	9.29	620.953	28.220	
1	10	5.996	10.45	625.456	27.453	
1	AVG			622.879	27.366	
2	1	6.387	0.00	625.129	26.024	
2	2	6.387	1.16	625.779	26.254	
2	3	6.387	2.32	624.275	26.619	
2	4	6.387	3.48	629.187	27.886	
2	5	6.387	4.65	627.876	28.257	
2	6	6.387	5.81	627.550	28.398	
2	7	6.387	6.97	623.286	28.295	
2	8	6.387	8.13	626.839	28.246	
2	9	6.387	9.29	622.982	28.315	
2	10	6.387	10.45	628.181	26.986	
2	AVG			626.126	27.606	
3	1	6.755	0.00	627.387	25.982	
3	2	6.755	1.16	626.229	25.202	
3	3	6.755	2.32	626.308	25.456	
3	4	6.755	3.48	629.818	27.536	
3	5	6.755	4.65	630.984	27.795	
3	6	6.755	5.81	631.284	28.113	
3	7	6.755	6. 7	624.435	28.243	
3	8	6.755	8.13	629.266	28.366	
3	9	6.755	9.29	626.026	28.718	
3	10	6.755	10.45	629.741	27.589	
3	AVG			628.234	27.453	
4	1	7.104	0.00	634.353	26.325	
4	2	7.104	1.16	630.819	25.103	
4	3	7.104	2.32	621.789	25.426	
4	4	7.104	3.48	631.224	27.391	
4	5	7.104	4.65	631.005	27.514	
4	6	7.104	5.81	629.551	28.079	
4	7	7.104	6.97	626.642	28.068	
4	8	7.104	8.13	631.317	28.371	
4	9	7.104	9.29	626.744	28.417	
4	10	7.104	10.45	634.846	27.464	
4	AVG			629.886	27.359	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 12
THROTTLE:075

TEST ID:870909019

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	647.863	26.381	
5	2	7.437	1.16	640.110	25.160	
5	3	7.437	2.32	625.408	25.637	
5	4	7.437	3.48	634.778	27.448	
5	5	7.437	4.65	631.814	27.767	
5	6	7.437	5.81	633.369	28.400	
5	7	7.437	6.97	630.991	23.373	
5	8	7.437	8.13	640.361	28.633	
5	9	7.437	9.29	638.181	29.127	
5	10	7.437	10.45	651.997	28.076	
5	AVG			637.518	27.667	
6	1	7.756	0.00	661.887	26.169	
6	2	7.756	1.16	645.433	24.857	
6	3	7.756	2.32	633.233	25.332	
6	4	7.756	3.48	641.995	27.243	
6	5	7.756	4.65	638.868	28.084	
6	6	7.756	5.81	643.516	28.881	
6	7	7.756	6.97	642.209	29.064	
6	8	7.756	8.13	653.494	29.152	
6	9	7.756	9.29	654.800	29.359	
6	10	7.756	10.45	670.770	28.079	
6	AVG			648.923	27.876	
7	1	8.062	0.00	672.060	26.023	
7	2	8.062	1.16	659.806	25.468	
7	3	8.062	2.32	646.316	25.841	
7	4	8.062	3.48	654.102	27.492	
7	5	8.062	4.65	651.144	28.500	
7	6	8.062	5.81	656.289	29.025	
7	7	8.062	6.97	655.801	28.856	
7	8	8.062	8.13	664.157	28.940	
7	9	8.062	9.29	663.900	29.215	
7	10	8.062	10.45	678.160	28.493	
7	AVG			660.264	27.978	
8	1	8.356	0.00	681.217	27.059	
8	2	8.356	1.16	674.049	27.049	
8	3	8.356	2.32	661.666	27.747	
8	4	8.356	3.48	671.178	28.190	
8	5	8.356	4.65	666.629	28.500	
8	6	8.356	5.81	671.981	29.051	
8	7	8.356	6.97	670.238	28.938	
8	8	8.356	8.13	675.343	28.887	
8	9	8.356	9.29	673.309	29.314	
8	10	8.356	10.45	680.087	29.121	
8	AVG			672.532	28.441	

COMPRESSOR CONFIGURATION:PBS SCAN: 3 TEST ID:870904005
 NOMINAL % DESIGN SPEED:090 THROTTLE:000

PERFORMANCE:

MEAS. WORK =1272.16 ISEN. EFFIC.= 89.570 POLYTROPIC EFFIC.=90.313
 MEAS. FLOWR.= 40.083 CORR. FLOWR.= 56.592 COMPUTED FLOWRATE=54.595
 MEASURED RPM=18484.0 CORR. RPM =18177.1 % DESIGN RPM = 89.89
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.351 PRESSURE RATIO = 1.690
 D.P. TEMP. =450.089 P. COR. FAC.= 1.388 TEMP. COR. FACT. = .967
 ATMOS. PRES.= 14.366 ATM.PRES.(S)= 14.367 REL. HUMIDITY = .031
 CALIBRATION PRESSURES (SONIX)= 9.0037 14.3683 29.3727

VENTURI PRESSURES:

INLET (AVG=11.636,SONIX=11.631)= 11.632 11.636 11.636 11.641
 THROAT (AVG=10.487,SONIX=10.488)= 10.493 10.478 10.493 10.478
 10.489 10.488 10.488 10.487
 10.487 10.487 10.488 10.488

PLENUM CONDITIONS:

PRESSURES (AVG=10.583,SONIX=10.571)= 10.586 10.580
 TEMPERATURES (AVG=536.37)= 536.42 536.87 536.28 535.83 536.87
 536.72 535.80 535.42 537.13

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 24.486 24.852 24.436 ***** 25.215 ***** 25.588
 25.708 25.916
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 627.02 607.17 ***** 610.90 613.84 ***** *****
 611.16 607.41

STATIC PRESSURES (CORRECTED):

----CASING----- -----HUB-----

X	P	X	P
-8.571	11.340	-5.125	15.486
-8.400	11.305	-5.125	15.315
-8.400	11.278	-5.125	15.702
-8.400	11.324	-5.125	15.308
-8.400	11.173	-1.650	17.750
-8.318	11.220	-1.650	18.365
-8.065	11.023	-1.650	18.180
-7.811	11.321	-1.650	17.301
-7.558	13.824	-.900	17.515
-7.304	*****	-.900	18.219
-7.051	14.092	-.900	18.228
-6.798	*****	-.900	17.689
-6.544	17.117		
-6.291	17.963		
-6.037	18.778		
-5.784	19.564		
-1.650	19.297		
-1.650	19.769		
-1.650	19.734		
-1.650	19.109		
-.900	18.602		
-.900	19.066		
-.900	18.942		
-.900	18.234		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 3
THROTTLE:000

TEST ID:870904005

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	614.396	23.639	
1	2	5.996	1.16	611.248	22.928	
1	3	5.996	2.32	608.000	24.775	
1	4	5.996	3.48	610.459	25.746	
1	5	5.996	4.65	608.659	25.926	
1	6	5.996	5.81	610.616	26.077	
1	7	5.996	6.97	611.144	26.015	
1	8	5.996	8.13	611.282	26.094	
1	9	5.996	9.29	611.260	26.222	
1	10	5.996	10.45	611.842	25.255	
1	AVG			610.844	25.352	
2	1	6.387	0.00	606.230	23.834	
2	2	6.387	1.16	606.366	25.489	
2	3	6.387	2.32	607.282	25.540	
2	4	6.387	3.48	608.725	25.532	
2	5	6.387	4.65	608.853	25.480	
2	6	6.387	5.81	610.041	25.630	
2	7	6.387	6.97	609.503	25.574	
2	8	6.387	8.13	609.785	25.737	
2	9	6.387	9.29	607.796	25.599	
2	10	6.387	10.45	609.313	24.274	
2	AVG			608.409	25.296	
3	1	6.755	0.00	605.090	23.970	
3	2	6.755	1.16	605.395	25.280	
3	3	6.755	2.32	606.300	25.228	
3	4	6.755	3.48	608.375	25.133	
3	5	6.755	4.65	610.094	25.226	
3	6	6.755	5.81	610.105	25.318	
3	7	6.755	6.97	608.003	25.363	
3	8	6.755	8.13	608.819	25.484	
3	9	6.755	9.29	606.991	25.634	
3	10	6.755	10.45	607.533	24.119	
3	AVG			607.694	25.096	
4	1	7.104	0.00	605.105	24.507	
4	2	7.104	1.16	605.210	25.151	
4	3	7.104	2.32	605.488	25.226	
4	4	7.104	3.48	608.868	25.092	
4	5	7.104	4.65	608.053	25.002	
4	6	7.104	5.81	609.781	25.142	
4	7	7.104	6.97	608.871	25.114	
4	8	7.104	8.13	607.580	25.244	
4	9	7.104	9.29	607.483	25.532	
4	10	7.104	10.45	608.024	24.113	
4	AVG			607.448	25.023	

COMPRESSOR CONFIGURATION:PBS
NOMINAL & DESIGN SPEED:090

SCAN: 3
THROTTLE:000

TEST ID:870904005

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	606.781	24.640	
5	2	7.437	1.16	605.957	25.172	
5	3	7.437	2.32	607.552	25.280	
5	4	7.437	3.48	610.887	24.942	
5	5	7.437	4.65	612.297	24.966	
5	6	7.437	5.81	611.169	25.228	
5	7	7.437	6.97	609.227	25.227	
5	8	7.437	8.13	609.915	25.386	
5	9	7.437	9.29	609.117	25.406	
5	10	7.437	10.45	609.537	24.024	
5	AVG			609.241	25.039	
6	1	7.756	0.00	610.025	25.080	
6	2	7.756	1.16	608.697	25.294	
6	3	7.756	2.32	610.000	25.274	
6	4	7.756	3.48	611.530	25.193	
6	5	7.756	4.65	612.301	25.208	
6	6	7.756	5.81	614.395	25.428	
6	7	7.756	6.97	614.008	25.302	
6	8	7.756	8.13	613.772	25.516	
6	9	7.756	9.29	613.775	25.572	
6	10	7.756	10.45	615.981	24.135	
6	AVG			612.425	25.211	
7	1	8.062	0.00	622.690	23.764	
7	2	8.062	1.16	617.158	25.015	
7	3	8.062	2.32	614.750	25.351	
7	4	8.062	3.48	616.771	25.075	
7	5	8.062	4.65	619.373	25.075	
7	6	8.062	5.81	620.830	25.338	
7	7	8.062	6.97	622.114	25.120	
7	8	8.062	8.13	622.558	25.380	
7	9	8.062	9.29	623.168	25.204	
7	10	8.062	10.45	626.343	24.047	
7	AVG			620.495	24.960	
8	1	8.356	0.00	630.191	23.895	
8	2	8.356	1.16	625.097	24.953	
8	3	8.356	2.32	626.375	24.924	
8	4	8.356	3.48	629.770	24.699	
8	5	8.356	4.65	632.590	24.409	
8	6	8.356	5.81	633.812	24.659	
8	7	8.356	6.97	634.817	24.479	
8	8	8.356	8.13	633.472	24.741	
8	9	8.356	9.29	633.843	24.903	
8	10	8.356	10.45	634.635	24.266	
8	AVG			631.421	24.602	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090
PERFORMANCE:

SCAN: 13
THROTTLE:000

TEST ID:870909020

MEAS. WORK =1246.39 ISEN. EFFIC.= 89.425 POLYTROPIC EFFIC.=90.188
MEAS. FLOWR.= 37.937 CORR. FLOWR.= 55.870 COMPUTED FLOWRATE=54.118
MEASURED RPM=18628.0 CORR. RPM =18194.6 % DESIGN RPM = 89.97
SPEC. HEAT = 1.400 GAS CONSTANT= 53.352 PRESSURE RATIO = 1.703
D.P. TEMP. =483.453 P. COR. FAC.= 1.438 TEMP. COR. FACT. = .954
ATMOS. PRES.= 14.256 ATM.PRES.(S)= 14.256 REL. HUMIDITY = .109
CALIBRATION PRESSURES (SONIX)= 9.0011 14.2562 29.2607

VENTURI PRESSURES:

INLET (AVG=11.212,SONIX=11.211)= 11.211 11.215 11.217 11.207
THROAT (AVG=10.127,SONIX=10.125)= 10.130 10.125 10.130 10.125
10.128 10.126 10.128 10.127
10.127 10.127 10.129 10.127

PLENUM CONDITIONS:

PRESSURES (AVG=10.215,SONIX=10.204)= 10.215 10.216
TEMPERATURES (AVG=543.71)= 543.89 544.06 543.39 543.30 544.09
543.89 543.04 543.30 544.44

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
PRESSURE = 24.942 25.148 24.598 ***** 25.316 ***** 25.565
25.779 25.943
RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
TEMPERATURE= 631.87 607.66 ***** 612.91 616.75 *****
611.78 608.93

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	11.423	-5.125	15.632
-8.400	11.380	-5.125	15.477
-8.400	11.407	-5.125	15.834
-8.400	11.426	-5.125	15.467
-8.400	11.279	-1.650	18.247
-8.318	11.310	-1.650	18.797
-8.065	11.124	-1.650	18.613
-7.811	11.478	-1.650	17.815
-7.558	14.221	-.900	18.020
-7.304	*****	-.900	18.688
-7.051	14.594	-.900	18.676
-6.798	*****	-.900	18.186
-6.544	17.464		
-6.291	18.230		
-6.037	19.055		
-5.784	19.818		
-1.650	19.690		
-1.650	20.163		
-1.650	20.133		
-1.650	19.482		
-.900	19.037		
-.900	19.478		
-.900	19.352		
-.900	18.650		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 13
THROTTLE:000

TEST ID:870909020

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	614.883	23.834	
1	2	5.996	1.16	608.392	23.253	
1	3	5.996	2.32	609.713	25.067	
1	4	5.996	3.48	613.562	25.771	
1	5	5.996	4.65	610.861	25.934	
1	6	5.996	5.81	611.902	26.059	
1	7	5.996	6.97	607.816	26.089	
1	8	5.996	8.13	612.298	26.063	
1	9	5.996	9.29	608.281	26.230	
1	10	5.996	10.45	614.327	25.254	
1	AVG			611.183	25.427	
2	1	6.387	0.00	608.156	23.502	
2	2	6.387	1.16	609.386	25.550	
2	3	6.387	2.32	608.612	25.623	
2	4	6.387	3.48	611.946	25.631	
2	5	6.387	4.65	611.044	25.587	
2	6	6.387	5.81	612.484	25.702	
2	7	6.387	6.97	607.502	25.714	
2	8	6.387	8.13	611.212	25.857	
2	9	6.387	9.29	605.018	25.736	
2	10	6.387	10.45	611.168	24.542	
2	AVG			609.660	25.382	
3	1	6.755	0.00	607.081	23.829	
3	2	6.755	1.16	609.820	25.365	
3	3	6.755	2.32	607.524	25.393	
3	4	6.755	3.48	611.482	25.251	
3	5	6.755	4.65	611.720	25.255	
3	6	6.755	5.81	612.668	25.395	
3	7	6.755	6.97	604.478	25.438	
3	8	6.755	8.13	609.623	25.613	
3	9	6.755	9.29	604.741	25.672	
3	10	6.755	10.45	609.795	24.217	
3	AVG			608.887	25.169	
4	1	7.104	0.00	606.809	24.465	
4	2	7.104	1.16	608.753	25.294	
4	3	7.104	2.32	603.535	25.314	
4	4	7.104	3.48	613.477	25.071	
4	5	7.104	4.65	610.424	25.262	
4	6	7.104	5.81	611.858	25.498	
4	7	7.104	6.97	605.198	25.263	
4	8	7.104	8.13	610.179	25.365	
4	9	7.104	9.29	605.722	25.659	
4	10	7.104	10.45	610.409	24.322	
4	AVG			608.616	25.164	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 13
THROTTLE:000

TEST ID:870909020

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	608.991	24.693	
5	2	7.437	1.16	611.189	25.467	
5	3	7.437	2.32	604.051	25.466	
5	4	7.437	3.48	613.876	25.401	
5	5	7.437	4.65	612.164	25.174	
5	6	7.437	5.81	614.831	25.536	
5	7	7.437	6.97	608.710	25.237	
5	8	7.437	8.13	611.732	25.735	
5	9	7.437	9.29	606.816	25.540	
5	10	7.437	10.45	614.872	24.276	
5	AVG			610.686	25.267	
6	1	7.756	0.00	613.894	24.971	
6	2	7.756	1.16	612.721	25.502	
6	3	7.756	2.32	607.580	25.525	
6	4	7.756	3.48	616.703	25.332	
6	5	7.756	4.65	613.982	25.426	
6	6	7.756	5.81	618.545	25.634	
6	7	7.756	6.97	612.731	25.561	
6	8	7.756	8.13	615.873	25.760	
6	9	7.756	9.29	612.946	25.799	
6	10	7.756	10.45	620.210	24.355	
6	AVG			614.459	25.400	
7	1	8.062	0.00	626.753	23.715	
7	2	8.062	1.16	622.403	25.241	
7	3	8.062	2.32	613.088	25.657	
7	4	8.062	3.48	620.471	25.321	
7	5	8.062	4.65	619.727	25.308	
7	6	8.062	5.81	624.686	25.543	
7	7	8.062	6.97	621.846	25.416	
7	8	8.062	8.13	626.075	25.578	
7	9	8.062	9.29	622.956	25.521	
7	10	8.062	10.45	630.328	24.281	
7	AVG			622.684	25.190	
8	1	8.356	0.00	633.185	24.147	
8	2	8.356	1.16	629.570	25.270	
8	3	8.356	2.32	624.006	25.121	
8	4	8.356	3.48	632.484	24.989	
8	5	8.356	4.65	633.059	25.308	
8	6	8.356	5.81	637.873	24.894	
8	7	8.356	6.97	634.968	24.754	
8	8	8.356	8.13	638.194	25.063	
8	9	8.356	9.29	632.664	25.270	
8	10	8.356	10.45	633.285	24.579	
8	AVG			632.891	24.950	

COMPRESSOR CONFIGURATION:PBS

SCAN: 14

TEST ID:870909023

NOMINAL % DESIGN SPEED:090

THROTTLE:025

PERFORMANCE:

MEAS. WORK =1238.79 ISEN. EFFIC.= 88.487 POLYTROPIC EFFIC.=89.345
 MEAS. FLOWR.= 35.963 CORR. FLOWR.= 54.176 COMPUTED FLOWRATE=52.457
 MEASURED RPM=4634.0 CORR. RPM =18198.5 % DESIGN RPM = 89.99
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.352 PRESSURE RATIO = 1.735
 D.P. TEMP. =482.069 P. COR. FAC.= 1.471 TEMP. COR. FACT. = .954
 ATMOS. PRES.= 14.254 ATM.PRES.(S)= 14.256 REL. HUMIDITY = .103
 CALIBRATION PRESSURES (SONIX)= 9.0020 14.2558 29.2584

VENTURI PRESSURES:

INLET (AVG=10.901,SONIX=10.902)= 10.905 10.902 10.898 10.899
 THROAT (AVG= 9.905,SONIX= 9.908)= 9.901 9.900 9.901 9.900
 9.907 9.907 9.907 9.907
 9.906 9.906 9.908 9.908

PLENUM CONDITIONS:

PRESSURES (AVG= 9.987,SONIX= 9.973)= 9.988 9.987
 TEMPERATURES (AVG=543.83)= 544.22 544.07 543.52 543.37 544.07
 543.96 543.08 543.22 544.95

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 25.978 25.956 25.173 ***** 25.892 ***** 25.924
 26.015 26.151
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 640.85 610.18 ***** 614.83 619.78 ***** *****
 611.98 613.27

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	11.717	-5.125	15.979
-8.400	11.721	-5.125	15.837
-8.400	11.725	-5.125	16.180
-8.400	11.791	-5.125	15.821
-8.400	11.645	-1.650	19.479
-8.318	11.648	-1.650	19.881
-8.065	11.406	-1.650	19.779
-7.811	11.931	-1.650	19.099
-7.558	15.492	-.900	19.316
-7.304	*****	-.900	19.896
-7.051	16.099	-.900	19.844
-6.798	*****	-.900	19.471
-6.544	18.566		
-6.291	19.088		
-6.037	19.677		
-5.784	20.400		
-1.650	20.672		
-1.650	21.069		
-1.650	21.050		
-1.650	20.439		
-.900	20.131		
-.900	20.513		
-.900	20.422		
-.900	19.773		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 14
THROTTLE:025

TEST ID:870909023

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	614.497	24.582	
1	2	5.996	1.16	608.351	23.716	
1	3	5.996	2.32	610.557	25.252	
1	4	5.996	3.48	613.932	26.010	
1	5	5.996	4.65	610.484	26.021	
1	6	5.996	5.81	612.569	26.223	
1	7	5.996	6.97	609.224	26.125	
1	8	5.996	8.13	611.705	26.100	
1	9	5.996	9.29	608.055	26.403	
1	10	5.996	10.45	614.378	25.877	
1	AVG			611.387	25.689	
2	1	6.387	0.00	609.132	23.670	
2	2	6.387	1.16	611.299	25.209	
2	3	6.387	2.32	610.556	25.873	
2	4	6.387	3.48	614.169	26.026	
2	5	6.387	4.65	611.724	25.948	
2	6	6.387	5.81	613.163	26.166	
2	7	6.387	6.97	608.030	26.020	
2	8	6.387	8.13	612.086	26.052	
2	9	6.387	9.29	608.870	26.153	
2	10	6.387	10.45	611.934	24.949	
2	AVG			611.127	25.657	
3	1	6.755	0.00	611.155	23.888	
3	2	6.755	1.16	611.461	25.470	
3	3	6.755	2.32	610.605	25.747	
3	4	6.755	3.48	613.178	25.723	
3	5	6.755	4.65	612.535	25.685	
3	6	6.755	5.81	616.054	25.936	
3	7	6.755	6.97	610.265	25.875	
3	8	6.755	8.13	614.446	25.968	
3	9	6.755	9.29	608.747	26.206	
3	10	6.755	10.45	612.478	25.137	
3	AVG			612.100	25.599	
4	1	7.104	0.00	611.597	23.980	
4	2	7.104	1.16	612.853	25.582	
4	3	7.104	2.32	605.990	25.601	
4	4	7.104	3.48	614.874	25.394	
4	5	7.104	4.65	614.013	25.563	
4	6	7.104	5.81	614.073	25.835	
4	7	7.104	6.97	609.459	25.777	
4	8	7.104	8.13	611.868	26.034	
4	9	7.104	9.29	610.218	26.110	
4	10	7.104	10.45	614.045	24.859	
4	AVG			611.871	25.507	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 14
THROTTLE:025

TEST ID:870909023

DISCHARGE CONDITIONS (CORRECTED):

PROB#	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	615.149	24.369	
5	2	7.437	1.16	612.972	25.645	
5	3	7.437	2.32	608.777	25.760	
5	4	7.437	3.48	615.845	25.714	
5	5	7.437	4.65	613.402	25.797	
5	6	7.437	5.81	616.659	25.944	
5	7	7.437	6.97	609.862	26.089	
5	8	7.437	8.13	617.314	26.062	
5	9	7.437	9.29	611.638	26.255	
5	10	7.437	10.45	617.619	24.815	
5	AVG			613.862	25.674	
6	1	7.756	0.00	623.000	24.075	
6	2	7.756	1.16	618.999	25.814	
6	3	7.756	2.32	612.309	26.261	
6	4	7.756	3.48	619.689	26.035	
6	5	7.756	4.65	616.244	25.972	
6	6	7.756	5.81	621.823	26.318	
6	7	7.756	6.97	617.299	26.114	
6	8	7.756	8.13	623.942	26.238	
6	9	7.756	9.29	622.269	26.284	
6	10	7.756	10.45	630.442	24.927	
6	AVG			620.434	25.849	
7	1	8.062	0.00	636.023	24.116	
7	2	8.062	1.16	627.824	25.493	
7	3	8.062	2.32	618.935	26.105	
7	4	8.062	3.48	624.026	25.755	
7	5	8.062	4.65	626.931	25.968	
7	6	8.062	5.81	630.734	26.438	
7	7	8.062	6.97	628.883	26.047	
7	8	8.062	8.13	635.161	26.103	
7	9	8.062	9.29	631.119	26.274	
7	10	8.062	10.45	641.857	25.195	
7	AVG			629.959	25.789	
8	1	8.356	0.00	642.724	24.681	
8	2	8.356	1.16	635.720	25.712	
8	3	8.356	2.32	630.016	25.864	
8	4	8.356	3.48	636.649	25.602	
8	5	8.356	4.65	641.074	25.968	
8	6	8.356	5.81	644.047	25.971	
8	7	8.356	6.97	643.060	25.619	
8	8	8.356	8.13	647.018	25.640	
8	9	8.356	9.29	643.572	26.093	
8	10	8.356	10.45	644.891	25.298	
8	AVG			640.825	25.659	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 15
THROTTLE:045

TEST ID:870909025

PERFORMANCE:

MEAS. WORK =1234.16 ISEN. EFFIC.= 86.911 POLYTROPIC EFFIC.=87.896
MEAS. FLOWR.= 34.732 CORR. FLOWR.= 52.719 COMPUTED FLOWRATE=51.112
MEASURED RPM=18612.0 CORR. RPM =18179.1 % DESIGN RPM = 89.90
SPEC. HEAT = 1.400 GAS CONSTANT= 53.352 PRESSURE RATIO = 1.745
D.P. TEMP. =481.205 P. COR. FAC.= 1.483 TEMP. COR. FACT. = .954
ATMOS. PRES.= 14.254 ATM.PRES.(S)= 14.256 REL. HUMIDITY = .099
CALIBRATION PRESSURES (SONIX)= 9.0018 14.2566 29.2603

VENTURI PRESSURES:

INLET (AVG=10.765,SONIX=10.769)= 10.764 10.768 10.765 10.765
THROAT (AVG= 9.830,SONIX= 9.836)= 9.827 9.821 9.827 9.821
9.835 9.834 9.834 9.834
9.832 9.832 9.835 9.834

PLENUM CONDITIONS:

PRESSURES (AVG= 9.911,SONIX= 9.892)= 9.912 9.910
TEMPERATURES (AVG=543.71)= 544.10 543.95 543.66 543.36 543.80
543.95 543.22 542.81 544.51

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
PRESSURE = 26.156 26.312 25.372 ***** 25.831 ***** 26.247
26.062 26.246
RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
TEMPERATURE= 647.06 612.19 ***** 615.92 621.84 ***** *****
611.55 613.48

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	12.011	-5.125	16.160
-8.400	11.986	-5.125	16.034
-8.400	12.023	-5.125	16.347
-8.400	12.105	-5.125	16.008
-8.400	11.931	-1.650	20.060
-8.318	11.926	-1.650	20.408
-8.065	11.675	-1.650	20.328
-7.811	12.225	-1.650	19.716
-7.558	16.453	-.900	19.923
-7.304	*****	-.900	20.453
-7.051	16.843	-.900	20.404
-6.798	*****	-.900	20.070
-6.544	19.073		
-6.291	19.558		
-6.037	20.004		
-5.784	20.673		
-1.650	21.154		
-1.650	21.489		
-1.650	21.443		
-1.650	20.897		
-.900	20.637		
-.900	21.007		
-.900	20.963		
-.900	20.336		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 15
THROTTLE:045

TEST ID:870909025

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	613.577	24.804	
1	2	5.996	1.16	607.146	23.852	
1	3	5.996	2.32	610.428	25.043	
1	4	5.996	3.48	613.747	25.993	
1	5	5.996	4.65	611.073	26.076	
1	6	5.996	5.81	612.636	26.248	
1	7	5.996	6.97	609.939	26.164	
1	8	5.996	8.13	612.764	26.227	
1	9	5.996	9.29	608.744	26.476	
1	10	5.996	10.45	613.481	25.871	
1	AVG			611.413	25.735	
2	1	6.387	0.00	610.683	23.836	
2	2	6.387	1.16	611.028	24.958	
2	3	6.387	2.32	613.206	25.512	
2	4	6.387	3.48	615.699	26.201	
2	5	6.387	4.65	611.964	26.197	
2	6	6.387	5.81	613.785	26.306	
2	7	6.387	6.97	610.956	26.279	
2	8	6.387	8.13	613.652	26.305	
2	9	6.387	9.29	610.467	26.337	
2	10	6.387	10.45	613.402	25.145	
2	AVG			612.527	25.769	
3	1	6.755	0.00	614.331	24.102	
3	2	6.755	1.16	611.042	24.746	
3	3	6.755	2.32	613.866	25.510	
3	4	6.755	3.48	616.135	25.907	
3	5	6.755	4.65	615.756	25.982	
3	6	6.755	5.81	616.937	26.074	
3	7	6.755	6.97	611.648	26.076	
3	8	6.755	8.13	615.055	26.290	
3	9	6.755	9.29	610.449	26.379	
3	10	6.755	10.45	615.117	25.420	
3	AVG			614.044	25.695	
4	1	7.104	0.00	614.205	24.213	
4	2	7.104	1.16	612.110	25.371	
4	3	7.104	2.32	606.414	25.573	
4	4	7.104	3.48	615.117	25.532	
4	5	7.104	4.65	614.374	25.631	
4	6	7.104	5.81	614.867	26.150	
4	7	7.104	6.97	613.815	26.069	
4	8	7.104	8.13	614.895	26.282	
4	9	7.104	9.29	610.893	26.235	
4	10	7.104	10.45	615.172	25.231	
4	AVG			613.170	25.663	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 15
THROTTLE:045

TEST ID:870909025

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	620.485	24.150	
5	2	7.437	1.16	615.495	25.660	
5	3	7.437	2.32	610.511	25.803	
5	4	7.437	3.48	616.546	25.748	
5	5	7.437	4.65	614.632	25.817	
5	6	7.437	5.81	617.821	26.272	
5	7	7.437	6.97	615.583	26.028	
5	8	7.437	8.13	619.834	26.268	
5	9	7.437	9.29	615.834	26.442	
5	10	7.437	10.45	623.684	25.258	
5	AVG			616.947	25.784	
6	1	7.756	0.00	630.641	24.127	
6	2	7.756	1.16	620.256	25.035	
6	3	7.756	2.32	616.082	26.002	
6	4	7.756	3.48	619.775	26.106	
6	5	7.756	4.65	620.201	26.311	
6	6	7.756	5.81	624.425	26.636	
6	7	7.756	6.97	622.290	26.442	
6	8	7.756	8.13	628.187	26.580	
6	9	7.756	9.29	629.031	26.528	
6	10	7.756	10.45	637.318	25.253	
6	AVG			624.641	25.964	
7	1	8.062	0.00	640.935	24.083	
7	2	8.062	1.16	630.626	24.967	
7	3	8.062	2.32	621.264	26.231	
7	4	8.062	3.48	626.910	26.131	
7	5	8.062	4.65	630.476	26.219	
7	6	8.062	5.81	634.575	26.630	
7	7	8.062	6.97	635.182	26.347	
7	8	8.062	8.13	639.841	26.484	
7	9	8.062	9.29	638.002	26.507	
7	10	8.062	10.45	647.505	25.420	
7	AVG			634.328	25.964	
8	1	8.356	0.00	650.876	24.793	
8	2	8.356	1.16	643.598	25.743	
8	3	8.356	2.32	633.534	26.245	
8	4	8.356	3.48	641.454	25.889	
8	5	8.356	4.65	643.459	26.219	
8	6	8.356	5.81	648.132	26.259	
8	7	8.356	6.97	648.693	26.020	
8	8	8.356	8.13	652.485	26.141	
8	9	8.356	9.29	648.814	26.365	
8	10	8.356	10.45	651.119	25.825	
8	AVG			646.128	25.969	

COMPRESSOR CONFIGURATION:PBS

SCAN: 16

TEST ID:870909026

NOMINAL % DESIGN SPEED:090

THROTTLE:055

PERFORMANCE:

MEAS. WORK =1238.47 ISEN. EFFIC.= 85.526 POLYTROPIC EFFIC.=86.623
 MEAS. FLOWR.= 34.109 CORR. FLOWR.= 51.983 COMPUTED FLOWRATE=50.342
 MEASURED RPM=18614.0 CORR. RPM =18187.4 % DESIGN RPM = 89.94
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.352 PRESSURE RATIO = 1.752
 D.P. TEMP. =480.772 P. COR. FAC.= 1.489 TEMP. COR. FACT. = .955
 ATMOS. PRES.= 14.256 ATM.PRES.(S)= 14.257 REL. HUMIDITY = .099
 CALIBRATION PRESSURES (SONIX)= 9.0020 14.2572 29.2606

VENTURI PRESSURES:

INLET (AVG=10.699,SONIX=10.698)= 10.700 10.701 10.698 10.698
 THROAT (AVG= 9.795,SONIX= 9.801)= 9.795 9.787 9.795 9.787
 9.798 9.797 9.797 9.797
 9.797 9.797 9.799 9.797

PLENUM CONDITIONS:

PRESSURES (AVG= 9.868,SONIX= 9.855)= 9.869 9.867
 TEMPERATURES (AVG=543.33)= 543.66 543.63 543.19 542.93 543.43
 543.43 542.81 542.52 544.33

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 26.009 26.429 25.547 ***** 25.946 ***** 26.487
 26.088 26.300
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 649.82 613.33 ***** 616.01 622.55 ***** *****
 611.77 615.75

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	12.204	-5.125	16.285
-8.400	12.167	-5.125	16.143
-8.400	12.214	-5.125	16.467
-8.400	12.297	-5.125	16.124
-8.400	12.101	-1.650	20.405
-8.318	12.156	-1.650	20.686
-8.065	11.895	-1.650	20.633
-7.811	12.448	-1.650	20.038
-7.558	16.819	-.900	20.254
7.304	*****	-.900	20.763
-7.051	17.317	-.900	20.723
-6.798	*****	-.900	20.409
-6.544	19.414		
-6.291	19.975		
-6.037	20.213		
-5.784	20.882		
-1.650	21.392		
-1.650	21.697		
-1.650	21.672		
-1.650	21.170		
-.900	20.915		
-.900	21.267		
-.900	21.211		
-.900	20.622		

COMPRESSOR CONFIGURATION: PBC
NOMINAL % DESIGN SPEED: 090

SCAN: 16
THROTTLE: 055

TEST ID: 870909026

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	613.942	24.914	
1	2	5.996	1.16	607.582	23.974	
1	3	5.996	2.32	610.140	24.810	
1	4	5.996	3.48	613.667	25.980	
1	5	5.996	4.65	611.753	26.158	
1	6	5.996	5.81	613.352	26.348	
1	7	5.996	6.97	610.255	26.272	
1	8	5.996	8.13	613.860	26.364	
1	9	5.996	9.29	610.643	26.537	
1	10	5.996	10.45	613.454	25.906	
1	AVG			611.950	25.792	
2	1	6.387	0.00	611.779	24.012	
2	2	6.387	1.16	611.973	25.068	
2	3	6.387	2.32	614.823	25.609	
2	4	6.387	3.48	617.198	26.348	
2	5	6.387	4.65	615.415	26.429	
2	6	6.387	5.81	615.837	26.540	
2	7	6.387	6.97	612.720	26.480	
2	8	6.387	8.13	615.302	26.519	
2	9	6.387	9.29	611.498	26.477	
2	10	6.387	10.45	614.708	25.317	
2	AVG			614.195	25.945	
3	1	6.755	0.00	616.125	24.349	
3	2	6.755	1.16	612.273	24.486	
3	3	6.755	2.32	614.794	25.110	
3	4	6.755	3.48	617.118	26.099	
3	5	6.755	4.65	616.343	26.064	
3	6	6.755	5.81	616.932	26.324	
3	7	6.755	6.97	612.891	26.281	
3	8	6.755	8.13	616.572	26.496	
3	9	6.755	9.29	613.972	26.682	
3	10	6.755	10.45	615.860	25.868	
3	AVG			615.321	25.839	
4	1	7.104	0.00	615.943	24.355	
4	2	7.104	1.16	613.111	25.161	
4	3	7.104	2.32	609.247	25.544	
4	4	7.104	3.48	616.841	25.613	
4	5	7.104	4.65	615.989	25.793	
4	6	7.104	5.81	616.470	26.138	
4	7	7.104	6.97	614.866	25.972	
4	8	7.104	8.13	616.885	26.217	
4	9	7.104	9.29	612.856	26.390	
4	10	7.104	10.45	617.903	25.408	
4	AVG			615.004	25.693	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 16
THROTTLE:055

TEST ID:870909026

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	623.953	24.304	
5	2	7.437	1.16	616.996	25.303	
5	3	7.437	2.32	612.060	25.655	
5	4	7.437	3.48	618.018	25.783	
5	5	7.437	4.65	616.141	25.965	
5	6	7.437	5.81	619.646	26.181	
5	7	7.437	6.97	616.841	26.127	
5	8	7.437	8.13	621.190	26.377	
5	9	7.437	9.29	618.311	26.647	
5	10	7.437	10.45	627.578	25.675	
5	AVG			618.987	25.842	
6	1	7.756	0.00	638.099	24.269	
6	2	7.756	1.16	622.288	24.385	
6	3	7.756	2.32	616.689	25.611	
6	4	7.756	3.48	620.463	26.056	
6	5	7.756	4.65	621.751	26.308	
6	6	7.756	5.81	626.033	26.689	
6	7	7.756	6.97	624.655	26.704	
6	8	7.756	8.13	632.865	26.853	
6	9	7.756	9.29	632.553	26.838	
6	10	7.756	10.45	643.752	25.588	
6	AVG			627.770	26.016	
7	1	8.062	0.00	646.296	24.095	
7	2	8.062	1.16	633.650	24.516	
7	3	8.062	2.32	625.431	25.720	
7	4	8.062	3.48	629.741	26.294	
7	5	8.062	4.65	632.720	26.289	
7	6	8.062	5.81	636.599	26.883	
7	7	8.062	6.97	638.584	26.415	
7	8	8.062	8.13	645.188	26.617	
7	9	8.062	9.29	642.608	26.658	
7	10	8.062	10.45	650.974	25.658	
7	AVG			638.046	25.998	
8	1	8.356	0.00	656.595	24.999	
8	2	8.356	1.16	648.061	25.570	
8	3	8.356	2.32	637.551	26.303	
8	4	8.356	3.48	646.218	25.945	
8	5	8.356	4.65	647.057	26.289	
8	6	8.356	5.81	650.391	26.627	
8	7	8.356	6.97	650.929	26.270	
8	8	8.356	8.13	656.004	26.419	
8	9	8.356	9.29	653.651	26.587	
8	10	8.356	10.45	654.324	26.334	
8	AVG			650.015	26.157	

COMPRESSOR CONFIGURATION:PBS
 NOMINAL % DESIGN SPEED:090
 PERFORMANCE:

SCAN: 17
 THROTTLE:065

TEST ID:870909027

MEAS. WORK =1229.33 ISEN. EFFIC.= 83.669 POLYTROPIC EFFIC.=84.902
 MEAS. FLOWR.= 33.272 CORR. FLOWR.= 50.751 COMPUTED FLOWRATE=49.121
 MEASURED RPM=18610.0 CORR. RPM =18189.0 % DESIGN RPM = 89.95
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.352 PRESSURE RATIO = 1.749
 D.P. TEMP. =480.483 P. COR. FAC.= 1.491 TEMP. COR. FACT. = .955
 ATMOS. PRES.= 14.259 ATM.PRES.(S)= 14.258 REL. HUMIDITY = .099
 CALIBRATION PRESSURES (SONIX)= 9.0011 14.2573 29.2587

VENTURI PRESSURES:

INLET (AVG=10.643,SONIX=10.643)= 10.645 10.645 10.642 10.641
 THROAT (AVG= 9.784,SONIX= 9.785)= 9.784 9.775 9.784 9.775
 9.786 9.785 9.787 9.786
 9.785 9.785 9.787 9.786

PLENUM CONDITIONS:

PRESSURES (AVG= 9.856,SONIX= 9.839)= 9.857 9.855
 TEMPERATURES (AVG=543.00)= 543.46 543.31 542.75 542.75 543.16
 543.16 542.31 542.31 543.75

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 26.265 26.506 25.640 ***** 25.976 ***** 26.476
 26.119 26.362
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 654.27 615.75 ***** 617.26 625.54 ***** *****
 612.40 616.38

STATIC PRESSURES (CORRECTED):

----CASING---- ----HUB-----

X	P	X	P
-8.571	12.420	-5.125	16.362
-8.400	12.408	-5.125	16.220
-8.400	12.400	-5.125	16.525
-8.400	12.518	-5.125	16.197
-8.400	12.338	-1.650	20.618
-8.318	12.422	-1.650	20.846
-8.065	12.167	-1.650	20.826
-7.811	12.699	-1.650	20.266
-7.558	17.000	-.900	20.516
-7.304	*****	-.900	20.944
-7.051	17.609	-.900	20.928
-6.798	*****	-.900	20.633
-6.544	19.630		
-6.291	20.136		
-6.037	20.341		
-5.784	20.956		
-1.650	21.543		
-1.650	21.835		
-1.650	21.813		
-1.650	21.295		
-.900	21.107		
-.900	21.441		
-.900	21.371		
-.900	20.843		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 17
THROTTLE:065

TEST ID:870909027

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	612.828	24.963	
1	2	5.996	1.16	610.134	24.017	
1	3	5.996	2.32	610.556	24.685	
1	4	5.996	3.48	613.091	25.930	
1	5	5.996	4.65	612.121	26.189	
1	6	5.996	5.81	613.329	26.379	
1	7	5.996	6.97	610.304	26.413	
1	8	5.996	8.13	613.592	26.370	
1	9	5.996	9.29	611.201	26.548	
1	10	5.996	10.45	614.145	25.923	
1	AVG			612.181	25.813	
2	1	6.387	0.00	613.217	24.163	
2	2	6.387	1.16	613.224	25.044	
2	3	6.387	2.32	615.493	25.256	
2	4	6.387	3.48	617.848	26.378	
2	5	6.387	4.65	616.080	26.536	
2	6	6.387	5.81	615.955	26.571	
2	7	6.387	6.97	613.706	26.510	
2	8	6.387	8.13	615.137	26.483	
2	9	6.387	9.29	611.188	26.598	
2	10	6.387	10.45	614.490	25.316	
2	AVG			614.672	25.955	
3	1	6.755	0.00	616.759	24.437	
3	2	6.755	1.16	613.385	24.022	
3	3	6.755	2.32	614.628	24.669	
3	4	6.755	3.48	618.274	26.160	
3	5	6.755	4.65	617.906	26.160	
3	6	6.755	5.81	617.985	26.506	
3	7	6.755	6.97	614.935	26.513	
3	8	6.755	8.13	618.779	26.653	
3	9	6.755	9.29	614.040	26.851	
3	10	6.755	10.45	618.082	25.876	
3	AVG			616.562	25.884	
4	1	7.104	0.00	618.039	24.483	
4	2	7.104	1.16	614.713	24.591	
4	3	7.104	2.32	611.251	24.882	
4	4	7.104	3.48	618.774	25.640	
4	5	7.104	4.65	616.743	25.725	
4	6	7.104	5.81	618.140	26.132	
4	7	7.104	6.97	614.079	25.910	
4	8	7.104	8.13	617.501	26.211	
4	9	7.104	9.29	614.738	26.479	
4	10	7.104	10.45	620.134	25.585	
4	AVG			616.441	25.611	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 17
THROTTLE:065

TEST ID:870909027

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	628.946	24.498	
5	2	7.437	1.16	619.938	24.580	
5	3	7.437	2.32	612.026	24.990	
5	4	7.437	3.48	618.754	25.649	
5	5	7.437	4.65	615.677	25.691	
5	6	7.437	5.81	619.009	26.131	
5	7	7.437	6.97	616.953	26.002	
5	8	7.437	8.13	624.871	26.348	
5	9	7.437	9.29	623.544	26.711	
5	10	7.437	10.45	631.569	25.603	
5	AVG			621.100	25.673	
6	1	7.756	0.00	643.326	24.266	
6	2	7.756	1.16	625.175	23.930	
6	3	7.756	2.32	618.052	24.662	
6	4	7.756	3.48	623.171	25.740	
6	5	7.756	4.65	622.556	26.088	
6	6	7.756	5.81	626.171	26.572	
6	7	7.756	6.97	627.848	26.735	
6	8	7.756	8.13	635.674	26.825	
6	9	7.756	9.29	636.888	26.882	
6	10	7.756	10.45	649.268	25.734	
6	AVG			630.829	25.864	
7	1	8.062	0.00	652.495	24.236	
7	2	8.062	1.16	637.629	24.065	
7	3	8.062	2.32	629.196	24.655	
7	4	8.062	3.48	633.577	25.972	
7	5	8.062	4.65	632.750	26.302	
7	6	8.062	5.81	638.691	26.779	
7	7	8.062	6.97	639.476	26.511	
7	8	8.062	8.13	645.870	26.628	
7	9	8.062	9.29	646.465	26.772	
7	10	8.062	10.45	656.229	26.102	
7	AVG			641.252	25.916	
8	1	8.356	0.00	661.072	25.140	
8	2	8.356	1.16	651.703	25.262	
8	3	8.356	2.32	644.231	25.809	
8	4	8.356	3.48	650.702	26.034	
8	5	8.356	4.65	647.736	26.302	
8	6	8.356	5.81	653.441	26.654	
8	7	8.356	6.97	651.826	26.423	
8	8	8.356	8.13	656.254	26.542	
8	9	8.356	9.29	655.136	26.794	
8	10	8.356	10.45	658.195	26.617	
8	AVG			653.013	26.189	

COMPRESSOR CONFIGURATION:PBS

SCAN: 18

TEST ID:870909028

NOMINAL % DESIGN SPEED:090

THROTTLE:070

PERFORMANCE:

MEAS. WORK =1225.07 ISEN. EFFIC.= 82.238 POLYTROPIC EFFIC.=83.574
 MEAS. FLOWR.= 32.747 CORR. FLOWR.= 49.918 COMPUTED FLOWRATE=48.239
 MEASURED RPM=18606.0 CORR. RPM =18183.3 % DESIGN RPM = 89.92
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.352 PRESSURE RATIO = 1.746
 D.P. TEMP. =480.599 P. COR. FAC.= 1.490 TEMP. COR. FACT. = .955
 ATMOS. PRES.= 14.259 ATM.PRES.(S)= 14.259 REL. HUMIDITY = .099
 CALIBRATION PRESSURES (SONIX)= 9.0021 14.2576 29.2565

VENTURI PRESSURES:

INLET (AVG=10.630,SONIX=10.629)= 10.624 10.635 10.631 10.630
 THROAT (AVG= 9.799,SONIX= 9.804)= 9.795 9.798 9.795 9.798
 9.801 9.800 9.800 9.800
 9.800 9.800 9.802 9.800

PLENUM CONDITIONS:

PRESSURES (AVG= 9.863,SONIX= 9.852)= 9.869 9.858
 TEMPERATURES (AVG=543.10)= 543.46 543.46 542.90 542.76 543.46
 543.31 542.46 542.17 543.93

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 26.695 26.455 25.684 ***** 26.130 ***** 26.461
 26.084 26.357
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 657.51 616.69 ***** 617.18 627.65 ***** *****
 612.32 617.70

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	12.615	-5.125	16.399
-8.400	12.657	-5.125	16.285
-8.400	12.667	-5.125	16.571
-8.400	12.735	-5.125	16.242
-8.400	12.541	-1.650	20.741
-8.318	12.650	-1.650	20.900
-8.065	12.419	-1.650	20.918
-7.811	12.966	-1.650	20.377
-7.558	16.988	-.900	20.622
-7.304	*****	-.900	21.038
-7.051	17.805	-.900	21.028
-6.798	*****	-.900	20.759
-6.544	19.761		
-6.291	20.277		
-6.037	20.361		
-5.784	20.975		
-1.650	21.600		
-1.650	21.968		
-1.650	21.818		
-1.650	21.340		
-.900	21.185		
-.900	21.537		
-.900	21.453		
-.900	20.946		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 18
THROTTLE:070

TEST ID:870909028

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	613.188	24.944	
1	2	5.996	1.16	610.682	23.951	
1	3	5.996	2.32	610.801	24.743	
1	4	5.996	3.48	613.477	26.003	
1	5	5.996	4.65	612.900	26.255	
1	6	5.996	5.81	613.306	26.408	
1	7	5.996	6.97	610.218	26.405	
1	8	5.996	8.13	614.387	26.365	
1	9	5.996	9.29	610.453	26.548	
1	10	5.996	10.45	614.162	25.952	
1	AVG			612.399	25.834	
2	1	6.387	0.00	613.942	24.201	
2	2	6.387	1.16	614.052	24.895	
2	3	6.387	2.32	615.971	25.173	
2	4	6.387	3.48	618.618	26.420	
2	5	6.387	4.65	617.365	26.585	
2	6	6.387	5.81	616.210	26.640	
2	7	6.387	6.97	614.268	26.654	
2	8	6.387	8.13	615.686	26.556	
2	9	6.387	9.29	610.952	26.659	
2	10	6.387	10.45	614.891	25.388	
2	AVG			615.228	25.995	
3	1	6.755	0.00	617.719	24.483	
3	2	6.755	1.16	613.980	23.896	
3	3	6.755	2.32	614.972	24.166	
3	4	6.755	3.48	618.258	26.098	
3	5	6.755	4.65	619.558	26.193	
3	6	6.755	5.81	619.380	26.540	
3	7	6.755	6.97	615.130	26.547	
3	8	6.755	8.13	618.793	26.717	
3	9	6.755	9.29	614.623	27.038	
3	10	6.755	10.45	619.400	26.020	
3	AVG			617.285	25.899	
4	1	7.104	0.00	620.636	24.647	
4	2	7.104	1.16	617.165	24.219	
4	3	7.104	2.32	612.145	24.292	
4	4	7.104	3.48	619.364	25.530	
4	5	7.104	4.65	617.874	25.709	
4	6	7.104	5.81	618.241	26.113	
4	7	7.104	6.97	614.699	25.940	
4	8	7.104	8.13	618.139	26.236	
4	9	7.104	9.29	615.283	26.599	
4	10	7.104	10.45	621.880	25.716	
4	AVG			617.572	25.572	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 18
THROTTLE:070

TEST ID:870909028

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	633.348	24.556	
5	2	7.437	1.16	624.573	24.217	
5	3	7.437	2.32	611.860	24.294	
5	4	7.437	3.48	620.335	25.494	
5	5	7.437	4.65	616.146	25.554	
5	6	7.437	5.81	619.473	26.016	
5	7	7.437	6.97	619.473	26.017	
5	8	7.437	8.13	626.619	26.255	
5	9	7.437	9.29	625.731	26.704	
5	10	7.437	10.45	638.504	25.553	
5	AVG			623.620	25.542	
6	1	7.756	0.00	647.018	24.194	
6	2	7.756	1.16	630.214	23.706	
6	3	7.756	2.32	618.152	23.832	
6	4	7.756	3.48	625.479	25.393	
6	5	7.756	4.65	623.314	25.860	
6	6	7.756	5.81	626.652	26.373	
6	7	7.756	6.97	627.534	26.633	
6	8	7.756	8.13	637.262	26.771	
6	9	7.756	9.29	639.407	27.010	
6	10	7.756	10.45	655.768	25.807	
6	AVG			633.224	25.722	
7	1	8.062	0.00	656.472	24.360	
7	2	8.062	1.16	644.125	23.752	
7	3	8.062	2.32	629.932	24.054	
7	4	8.062	3.48	636.561	25.443	
7	5	8.062	4.65	633.887	26.165	
7	6	8.062	5.81	638.959	26.725	
7	7	8.062	6.97	637.512	26.462	
7	8	8.062	8.13	645.975	26.611	
7	9	8.062	9.29	646.848	26.851	
7	10	8.062	10.45	661.586	26.374	
7	AVG			643.234	25.830	
8	1	8.356	0.00	663.707	25.154	
8	2	8.356	1.16	655.684	25.040	
8	3	8.356	2.32	645.765	25.422	
8	4	8.356	3.48	654.101	25.941	
8	5	8.356	4.65	649.150	26.165	
8	6	8.356	5.81	653.681	26.671	
8	7	8.356	6.97	653.141	26.526	
8	8	8.356	8.13	656.624	26.557	
8	9	8.356	9.29	655.368	26.879	
8	10	8.356	10.45	664.005	26.756	
8	AVG			655.122	26.155	

APPENDIX B

870909001 - PBS ROTOR #4 AERODYNAMIC ANALYSIS - THRU-BLADE

FREE STATION 1.000 IS INDEX 1

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	13.300	-18.450	182.9	242.9	0.0	242.9	518.71	513.79
2	12.536	-18.450	188.8	242.9	0.0	242.9	518.71	513.79
3	11.790	-18.450	194.6	242.9	0.0	242.9	518.71	513.79
4	11.061	-18.450	200.2	242.9	0.0	242.9	518.71	513.79
5	10.346	-18.450	205.5	242.9	0.0	242.9	518.71	513.79
6	9.646	-18.450	210.5	242.9	0.0	242.9	518.71	513.79
7	8.957	-18.450	215.2	242.9	0.0	242.9	518.71	513.79
8	8.280	-18.450	219.5	242.9	0.0	242.9	518.71	513.79
9	7.612	-18.450	223.4	242.9	0.0	242.9	518.71	513.79
10	6.953	-18.450	226.9	242.9	0.0	242.9	518.71	513.79
11	6.301	-18.450	230.0	242.9	0.0	242.9	518.71	513.79
12	5.655	-18.450	232.8	242.9	0.0	242.9	518.71	513.79
13	5.015	-18.450	235.1	242.9	0.0	242.9	518.71	513.79
14	4.380	-18.450	237.1	242.9	0.0	242.9	518.71	513.79
15	3.748	-18.450	238.8	242.9	0.0	242.9	518.71	513.79
16	3.119	-18.450	240.1	242.9	0.0	242.9	518.71	513.79
17	2.492	-18.450	241.2	242.9	0.0	242.9	518.71	513.79
18	1.868	-18.450	242.0	242.9	0.0	242.9	518.71	513.79
19	1.245	-18.450	242.5	242.9	0.0	242.9	518.71	513.79
20	.622	-18.450	242.8	242.9	0.0	242.9	518.71	513.79
21	.000	-18.450	242.9	242.9	0.0	242.9	518.71	513.79

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	13.300	14.69	14.21	1.0000	1.0000	242.9	.219	.2186
2	12.536	14.69	14.21	1.0000	1.0000	242.9	.219	.2186
3	11.790	14.69	14.21	1.0000	1.0000	242.9	.219	.2186
4	11.061	14.69	14.21	1.0000	1.0000	242.9	.219	.2186
5	10.346	14.69	14.21	1.0000	1.0000	242.9	.219	.2186
6	9.646	14.69	14.21	1.0000	1.0000	242.9	.219	.2186
7	8.957	14.69	14.21	1.0000	1.0000	242.9	.219	.2186
8	8.280	14.69	14.21	1.0000	1.0000	242.9	.219	.2186
9	7.612	14.69	14.21	1.0000	1.0000	242.9	.219	.2186
10	6.953	14.69	14.21	1.0000	1.0000	242.9	.219	.2186
11	6.301	14.69	14.21	1.0000	1.0000	242.9	.219	.2186
12	5.655	14.69	14.21	1.0000	1.0000	242.9	.219	.2186
13	5.015	14.69	14.21	1.0000	1.0000	242.9	.219	.2186
14	4.380	14.69	14.21	1.0000	1.0000	242.9	.219	.2186
15	3.748	14.69	14.21	1.0000	1.0000	242.9	.219	.2186
16	3.119	14.69	14.21	1.0000	1.0000	242.9	.219	.2186
17	2.492	14.69	14.21	1.0000	1.0000	242.9	.219	.2186
18	1.868	14.69	14.21	1.0000	1.0000	242.9	.219	.2186
19	1.245	14.69	14.21	1.0000	1.0000	242.9	.219	.2186
20	.622	14.69	14.21	1.0000	1.0000	242.9	.219	.2186
21	.000	14.69	14.21	1.0000	1.0000	242.9	.219	.2186

FREE STATION 1.000 IS INDEX 1

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	13.300	-18.450	0.00	-41.16	0.0000	.0747	0.0000
2	12.536	-18.450	0.00	-39.00	0.0000	.0747	0.0000
3	11.790	-18.450	0.00	-36.78	0.0000	.0747	0.0000
4	11.061	-18.450	0.00	-34.52	0.0000	.0747	0.0000
5	10.346	-18.450	0.00	-32.23	0.0000	.0747	0.0000
6	9.646	-18.450	0.00	-29.94	0.0000	.0747	0.0000
7	8.957	-18.450	0.00	-27.65	0.0000	.0747	0.0000
8	8.280	-18.450	0.00	-25.38	0.0000	.0747	0.0000
9	7.612	-18.450	0.00	-23.13	0.0000	.0747	0.0000
10	6.953	-18.450	0.00	-20.92	0.0000	.0747	0.0000
11	6.301	-18.450	0.00	-18.76	0.0000	.0747	0.0000
12	5.655	-18.450	0.00	-16.64	0.0000	.0747	0.0000
13	5.015	-18.450	0.00	-14.58	0.0000	.0747	0.0000
14	4.380	-18.450	0.00	-12.58	0.0000	.0747	0.0000
15	3.748	-18.450	0.00	-10.63	0.0000	.0747	0.0000
16	3.119	-18.450	0.00	-8.75	0.0000	.0747	0.0000
17	2.492	-18.450	0.00	-6.92	0.0000	.0747	0.0000
18	1.868	-18.450	0.00	-5.15	0.0000	.0747	0.0000
19	1.245	-18.450	0.00	-3.42	0.0000	.0747	0.0000
20	.622	-18.450	0.00	-1.71	0.0000	.0747	0.0000
21	.000	-18.450	0.00	0.00	0.0000	.0747	0.0000

FREE STATION 2.000 IS INDEX 2

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	9.480	-14.081	457.7	545.5	0.0	545.5	518.71	493.91
2	9.029	-14.120	460.8	535.2	0.0	535.2	518.71	494.84
3	8.582	-14.158	460.8	523.3	0.0	523.3	518.71	495.89
4	8.136	-14.197	458.6	510.8	0.0	510.8	518.71	496.97
5	7.689	-14.235	454.9	498.0	0.0	498.0	518.71	498.04
6	7.241	-14.274	450.0	485.4	0.0	485.4	518.71	499.08
7	6.790	-14.313	444.4	473.0	0.0	473.0	518.71	500.06
8	6.336	-14.352	438.1	461.1	0.0	461.1	518.71	500.99
9	5.878	-14.392	431.5	449.6	0.0	449.6	518.71	501.86
10	5.416	-14.432	424.7	438.7	0.0	438.7	518.71	502.67
11	4.950	-14.472	417.7	428.3	0.0	428.3	518.71	503.42
12	4.479	-14.513	410.7	418.5	0.0	418.5	518.71	504.12
13	4.002	-14.554	403.7	409.2	0.0	409.2	518.71	504.75
14	3.520	-14.596	396.8	400.6	0.0	400.6	518.71	505.34
15	3.032	-14.638	390.1	392.6	0.0	392.6	518.71	505.87
16	2.539	-14.681	383.8	385.2	0.0	385.2	518.71	506.34
17	2.040	-14.724	377.9	378.6	0.0	378.6	518.71	506.76
18	1.536	-14.767	372.6	372.9	0.0	372.9	518.71	507.12
19	1.027	-14.811	368.2	368.4	0.0	368.3	518.71	507.40
20	.515	-14.856	365.2	365.2	0.0	365.2	518.71	507.59
21	.000	-14.900	363.9	363.9	0.0	363.9	518.71	507.67

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	9.480	14.69	12.38	1.0000	1.0000	545.5	.501	.5006
2	9.029	14.69	12.46	1.0000	1.0000	535.2	.491	.4906
3	8.582	14.69	12.56	1.0000	1.0000	523.3	.479	.4793
4	8.136	14.69	12.65	1.0000	1.0000	510.8	.467	.4673
5	7.689	14.69	12.75	1.0000	1.0000	498.0	.455	.4551
6	7.241	14.69	12.84	1.0000	1.0000	485.4	.443	.4431
7	6.790	14.69	12.93	1.0000	1.0000	473.0	.431	.4314
8	6.336	14.69	13.01	1.0000	1.0000	461.1	.420	.4201
9	5.878	14.69	13.09	1.0000	1.0000	449.6	.409	.4093
10	5.416	14.69	13.17	1.0000	1.0000	438.7	.399	.3990
11	4.950	14.69	13.24	1.0000	1.0000	428.3	.389	.3893
12	4.479	14.69	13.30	1.0000	1.0000	418.5	.380	.3801
13	4.002	14.69	13.36	1.0000	1.0000	409.2	.371	.3715
14	3.520	14.69	13.41	1.0000	1.0000	400.6	.363	.3634
15	3.032	14.69	13.46	1.0000	1.0000	392.6	.356	.3559
16	2.539	14.69	13.51	1.0000	1.0000	385.2	.349	.3491
17	2.040	14.69	13.54	1.0000	1.0000	378.6	.343	.3430
18	1.536	14.69	13.58	1.0000	1.0000	372.9	.338	.3377
19	1.027	14.69	13.60	1.0000	1.0000	368.3	.333	.3335
20	.515	14.69	13.62	1.0000	1.0000	365.2	.331	.3306
21	.000	14.69	13.63	1.0000	1.0000	363.9	.329	.3294

FREE STATION 2.000 IS INDEX 2

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	9.480	-14.081	0.00	-32.97	.0952	.0677	0.0000
2	9.029	-14.120	0.00	-30.56	.0982	.0680	0.0000
3	8.582	-14.158	0.00	-28.29	.0984	.0683	0.0000
4	8.136	-14.197	0.00	-26.11	.0966	.0687	0.0000
5	7.689	-14.235	0.00	-24.02	.0935	.0691	0.0000
6	7.241	-14.274	0.00	-22.00	.0894	.0694	0.0000
7	6.790	-14.313	0.00	-20.04	.0846	.0698	0.0000
8	6.336	-14.352	0.00	-18.14	.0794	.0701	0.0000
9	5.878	-14.392	0.00	-16.29	.0740	.0704	0.0000
10	5.416	-14.432	0.00	-14.50	.0686	.0707	0.0000
11	4.950	-14.472	0.00	-12.76	.0631	.0710	0.0000
12	4.479	-14.513	0.00	-11.08	.0576	.0712	0.0000
13	4.002	-14.554	0.00	-9.46	.0523	.0714	0.0000
14	3.520	-14.596	0.00	-7.90	.0470	.0716	0.0000
15	3.032	-14.638	0.00	-6.41	.0418	.0718	0.0000
16	2.539	-14.681	0.00	-5.00	.0365	.0720	0.0000
17	2.040	-14.724	0.00	-3.68	.0311	.0721	0.0000
18	1.536	-14.767	0.00	-2.47	.0252	.0723	0.0000
19	1.027	-14.811	0.00	-1.41	.0186	.0724	0.0000
20	.515	-14.856	0.00	-.59	.0102	.0724	0.0000
21	.000	-14.900	0.00	0.00	0.0000	.0725	0.0000

FREE STATION 3.000 IS INDEX 3

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.960	-12.851	588.4	619.9	0.0	619.9	518.71	486.68
2	8.518	-12.742	585.2	609.2	0.0	609.2	518.71	487.70
3	8.081	-12.635	580.8	599.2	0.0	599.3	518.71	488.78
4	7.647	-12.528	575.7	589.7	0.0	589.8	518.71	489.72
5	7.216	-12.422	570.0	580.5	0.0	580.5	518.71	490.63
6	6.786	-12.317	563.5	571.2	0.0	571.2	518.71	491.51
7	6.358	-12.212	556.4	561.8	0.0	561.8	518.71	492.40
8	5.930	-12.107	548.6	552.1	0.0	552.1	518.71	493.30
9	5.502	-12.002	539.8	541.9	0.0	541.9	518.71	494.23
10	5.075	-11.896	530.1	531.1	0.0	531.1	518.71	495.20
11	4.646	-11.791	519.1	519.5	0.0	519.5	518.71	496.22
12	4.216	-11.686	506.7	506.8	0.0	506.8	518.71	497.31
13	3.785	-11.580	492.8	492.8	0.0	492.8	518.71	498.47
14	3.350	-11.473	476.8	477.3	0.0	477.2	518.71	499.73
15	2.911	-11.365	458.3	459.7	0.0	459.7	518.71	501.10
16	2.467	-11.256	436.7	439.6	0.0	439.5	518.71	502.61
17	2.014	-11.145	410.9	416.1	0.0	416.0	518.71	504.28
18	1.550	-11.031	378.8	388.0	0.0	387.9	518.71	506.17
19	1.067	-10.912	337.1	353.2	0.0	353.1	518.71	508.32
20	.552	-10.786	279.8	309.5	0.0	309.4	518.71	510.73
21	.000	-10.650	205.6	260.4	0.0	260.4	518.71	513.06

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.960	14.69	11.76	1.0000	1.0000	619.9	.573	.5730
2	8.518	14.69	11.85	1.0000	1.0000	609.2	.563	.5626
3	8.081	14.69	11.94	1.0000	1.0000	599.3	.553	.5528
4	7.647	14.69	12.02	1.0000	1.0000	589.8	.544	.5435
5	7.216	14.69	12.10	1.0000	1.0000	580.5	.534	.5345
6	6.786	14.69	12.17	1.0000	1.0000	571.2	.525	.5255
7	6.358	14.69	12.25	1.0000	1.0000	561.8	.516	.5164
8	5.930	14.69	12.33	1.0000	1.0000	552.1	.507	.5070
9	5.502	14.69	12.41	1.0000	1.0000	541.9	.497	.4972
10	5.075	14.69	12.50	1.0000	1.0000	531.1	.487	.4866
11	4.646	14.69	12.59	1.0000	1.0000	519.5	.476	.4756
12	4.216	14.69	12.68	1.0000	1.0000	506.8	.463	.4635
13	3.785	14.69	12.79	1.0000	1.0000	492.8	.450	.4501
14	3.350	14.69	12.90	1.0000	1.0000	477.2	.435	.4354
15	2.911	14.69	13.02	1.0000	1.0000	459.7	.419	.4188
16	2.467	14.69	13.16	1.0000	1.0000	439.5	.400	.3998
17	2.014	14.69	13.31	1.0000	1.0000	416.0	.378	.3778
18	1.550	14.69	13.49	1.0000	1.0000	387.9	.352	.3516
19	1.067	14.69	13.69	1.0000	1.0000	353.1	.319	.3194
20	.552	14.69	13.92	1.0000	1.0000	309.4	.279	.2792
21	.000	14.69	14.14	1.0000	1.0000	260.4	.234	.2344

FREE STATION 3.000 IS INDEX 3

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.960	-12.851	0.00	-18.32	.1067	.0652	0.0000
2	8.518	-12.742	0.00	-16.15	.0946	.0656	0.0000
3	8.081	-12.635	0.00	-14.23	.0862	.0659	0.0000
4	7.647	-12.528	0.00	-12.51	.0802	.0662	0.0000
5	7.216	-12.422	0.00	-10.90	.0760	.0665	0.0000
6	6.786	-12.317	0.00	-9.39	.0730	.0668	0.0000
7	6.358	-12.212	0.00	-7.92	.0712	.0671	0.0000
8	5.930	-12.107	0.00	-6.48	.0703	.0675	0.0000
9	5.502	-12.002	0.00	-5.06	.0704	.0678	0.0000
10	5.075	-11.896	0.00	-3.62	.0715	.0681	0.0000
11	4.646	-11.791	0.00	-2.16	.0736	.0685	0.0000
12	4.216	-11.686	0.00	-.66	.0771	.0688	0.0000
13	3.785	-11.580	0.00	.91	.0821	.0692	0.0000
14	3.350	-11.473	0.00	2.58	.0892	.0697	0.0000
15	2.911	-11.365	0.00	4.42	.0993	.0701	0.0000
16	2.467	-11.256	0.00	6.53	.1136	.0707	0.0000
17	2.014	-11.145	0.00	9.09	.1343	.0713	0.0000
18	1.550	-11.031	0.00	12.46	.1649	.0719	0.0000
19	1.067	-10.912	0.00	17.38	.2100	.0727	0.0000
20	.552	-10.786	0.00	25.30	.2686	.0736	0.0000
21	.000	-10.650	0.00	37.85	.2963	.0744	0.0000

FREE STATION 4.000 IS INDEX 4

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.550	-11.138	725.8	731.9	0.0	731.9	518.71	474.06
2	8.169	-11.063	705.9	710.3	0.0	710.3	518.71	476.60
3	7.787	-10.988	688.0	690.9	0.0	691.0	518.71	478.92
4	7.403	-10.913	671.7	673.4	0.0	673.5	518.71	480.91
5	7.019	-10.837	656.4	657.3	0.0	657.3	518.71	482.69
6	6.633	-10.761	641.9	642.2	0.0	642.2	518.71	484.30
7	6.247	-10.685	627.6	627.6	0.0	627.6	518.71	485.88
8	5.860	-10.609	613.2	613.3	0.0	613.3	518.71	487.36
9	5.473	-10.533	598.3	598.8	0.0	598.8	518.71	488.83
10	5.086	-10.457	582.6	583.8	0.0	583.8	518.71	490.30
11	4.699	-10.381	565.7	568.3	0.0	568.3	518.71	491.80
12	4.312	-10.304	547.5	551.9	0.0	551.9	518.71	493.30
13	3.926	-10.228	527.6	534.7	0.0	534.7	518.71	494.89
14	3.541	-10.153	506.0	516.5	0.0	516.5	518.71	496.48
15	3.158	-10.077	482.2	497.6	0.0	497.5	518.71	498.08
16	2.780	-10.003	456.0	478.0	0.0	477.9	518.71	499.67
17	2.411	-9.930	426.6	458.3	0.0	458.2	518.71	501.21
18	2.062	-9.862	393.4	439.7	0.0	439.6	518.71	502.60
19	1.752	-9.801	356.0	424.9	0.0	424.8	518.71	503.67
20	1.517	-9.755	313.6	417.7	0.0	417.7	518.71	504.17
21	1.421	-9.736	264.0	417.6	0.0	417.5	518.71	504.18

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.550	14.69	10.73	1.0000	1.0000	731.9	.686	.6856
2	8.169	14.69	10.94	1.0000	1.0000	710.3	.663	.6635
3	7.787	14.69	11.12	1.0000	1.0000	691.0	.644	.6439
4	7.403	14.69	11.28	1.0000	1.0000	673.5	.626	.6263
5	7.019	14.69	11.43	1.0000	1.0000	657.3	.610	.6102
6	6.633	14.69	11.56	1.0000	1.0000	642.2	.595	.5951
7	6.247	14.69	11.69	1.0000	1.0000	627.6	.581	.5807
8	5.860	14.69	11.82	1.0000	1.0000	613.3	.567	.5665
9	5.473	14.69	11.94	1.0000	1.0000	598.8	.552	.5523
10	5.086	14.69	12.07	1.0000	1.0000	583.8	.538	.5377
11	4.699	14.69	12.20	1.0000	1.0000	568.3	.523	.5226
12	4.312	14.69	12.33	1.0000	1.0000	551.9	.507	.5068
13	3.926	14.69	12.47	1.0000	1.0000	534.7	.490	.4901
14	3.541	14.69	12.61	1.0000	1.0000	516.5	.473	.4728
15	3.158	14.69	12.75	1.0000	1.0000	497.5	.455	.4546
16	2.780	14.69	12.89	1.0000	1.0000	477.9	.436	.4360
17	2.411	14.69	13.03	1.0000	1.0000	458.2	.417	.4174
18	2.062	14.69	13.16	1.0000	1.0000	439.6	.400	.3999
19	1.752	14.69	13.26	1.0000	1.0000	424.8	.386	.3861
20	1.517	14.69	13.30	1.0000	1.0000	417.7	.379	.3794
21	1.421	14.69	13.31	1.0000	1.0000	417.5	.379	.3792

FREE STATION 4.000 IS INDEX 4

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.550	-11.138	0.00	-7.39	.1018	.0611	0.0000
2	8.169	-11.063	0.00	-6.32	.0939	.0619	0.0000
3	7.787	-10.988	0.00	-5.24	.0873	.0627	0.0000
4	7.403	-10.913	0.00	-4.15	.0819	.0633	0.0000
5	7.019	-10.837	0.00	-3.02	.0779	.0639	0.0000
6	6.633	-10.761	0.00	-1.83	.0751	.0644	0.0000
7	6.247	-10.685	0.00	-.57	.0735	.0650	0.0000
8	5.860	-10.609	0.00	.77	.0732	.0654	0.0000
9	5.473	-10.533	0.00	2.21	.0739	.0659	0.0000
10	5.086	-10.457	0.00	3.76	.0758	.0664	0.0000
11	4.699	-10.381	0.00	5.44	.0785	.0669	0.0000
12	4.312	-10.304	0.00	7.27	.0821	.0675	0.0000
13	3.926	-10.228	0.00	9.30	.0864	.0680	0.0000
14	3.541	-10.153	0.00	11.59	.0913	.0685	0.0000
15	3.158	-10.077	0.00	14.25	.0962	.0691	0.0000
16	2.780	-10.003	0.00	17.44	.1002	.0696	0.0000
17	2.411	-9.930	0.00	21.42	.1003	.0702	0.0000
18	2.062	-9.862	0.00	26.51	.0885	.0707	0.0000
19	1.752	-9.801	0.00	33.08	.0462	.0710	0.0000
20	1.517	-9.755	0.00	41.34	-.0568	.0712	0.0000
21	1.421	-9.736	0.00	50.79	-.2152	.0712	0.0000

FREE STATION 5.000 IS INDEX 5

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-8.650	752.2	752.2	0.0	752.3	518.71	471.53
2	8.137	-8.676	747.9	748.0	0.0	748.0	518.71	472.07
3	7.776	-8.701	743.1	743.1	0.0	743.2	518.71	472.67
4	7.416	-8.726	737.0	737.2	0.0	737.2	518.71	473.41
5	7.058	-8.752	729.2	729.6	0.0	729.6	518.71	474.34
6	6.702	-8.777	719.1	720.0	0.0	720.0	518.71	475.50
7	6.346	-8.802	706.4	708.2	0.0	708.2	518.71	476.91
8	5.991	-8.827	690.9	694.0	0.0	693.9	518.71	478.57
9	5.636	-8.851	672.2	677.2	0.0	677.2	518.71	480.49
10	5.281	-8.876	650.6	658.1	0.0	658.0	518.71	482.62
11	4.925	-8.901	626.5	637.1	0.0	637.0	518.71	484.89
12	4.568	-8.926	600.6	614.9	0.0	614.9	518.71	487.19
13	4.210	-8.952	573.5	592.3	0.0	592.4	518.71	489.46
14	3.853	-8.977	545.7	570.0	0.0	570.0	518.71	491.63
15	3.498	-9.002	517.7	548.5	0.0	548.6	518.71	493.63
16	3.149	-9.026	489.7	528.7	0.0	528.8	518.71	495.41
17	2.814	-9.050	462.0	511.3	0.0	511.5	518.71	496.91
18	2.505	-9.071	434.6	497.5	0.0	497.6	518.71	498.07
19	2.240	-9.090	408.2	487.8	0.0	488.0	518.71	498.87
20	2.054	-9.103	386.2	482.7	0.0	482.9	518.71	499.28
21	1.984	-9.108	376.2	481.3	0.0	481.5	518.71	499.39

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	14.69	10.53	1.0000	1.0000	752.3	.707	.7066
2	8.137	14.69	10.57	1.0000	1.0000	748.0	.702	.7021
3	7.776	14.69	10.62	1.0000	1.0000	743.2	.697	.6971
4	7.416	14.69	10.68	1.0000	1.0000	737.2	.691	.6909
5	7.058	14.69	10.75	1.0000	1.0000	729.6	.683	.6831
6	6.702	14.69	10.84	1.0000	1.0000	720.0	.673	.6734
7	6.346	14.69	10.96	1.0000	1.0000	708.2	.661	.6613
8	5.991	14.69	11.09	1.0000	1.0000	693.9	.647	.6469
9	5.636	14.69	11.25	1.0000	1.0000	677.2	.630	.6300
10	5.281	14.69	11.42	1.0000	1.0000	658.0	.611	.6109
11	4.925	14.69	11.61	1.0000	1.0000	637.0	.590	.5900
12	4.568	14.69	11.80	1.0000	1.0000	614.9	.568	.5682
13	4.210	14.69	12.00	1.0000	1.0000	592.4	.546	.5461
14	3.853	14.69	12.18	1.0000	1.0000	570.0	.524	.5243
15	3.498	14.69	12.36	1.0000	1.0000	548.6	.504	.5036
16	3.149	14.69	12.51	1.0000	1.0000	528.8	.484	.4845
17	2.814	14.69	12.65	1.0000	1.0000	511.5	.468	.4680
18	2.505	14.69	12.75	1.0000	1.0000	497.6	.455	.4547
19	2.240	14.69	12.82	1.0000	1.0000	488.0	.446	.4456
20	2.054	14.69	12.86	1.0000	1.0000	482.9	.441	.4407
21	1.984	14.69	12.87	1.0000	1.0000	481.5	.439	.4395

FREE STATION 5.000 IS INDEX 5

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-8.650	0.00	-.58	.0120	.0603	0.0000
2	8.137	-8.676	0.00	-.24	.0115	.0604	0.0000
3	7.776	-8.701	0.00	.26	.0124	.0606	0.0000
4	7.416	-8.726	0.00	.95	.0147	.0609	0.0000
5	7.058	-8.752	0.00	1.81	.0183	.0612	0.0000
6	6.702	-8.777	0.00	2.85	.0229	.0615	0.0000
7	6.346	-8.802	0.00	4.04	.0284	.0620	0.0000
8	5.991	-8.827	0.00	5.40	.0349	.0625	0.0000
9	5.636	-8.851	0.00	6.93	.0423	.0632	0.0000
10	5.281	-8.876	0.00	8.62	.0500	.0639	0.0000
11	4.925	-8.901	0.00	10.44	.0567	.0646	0.0000
12	4.568	-8.926	0.00	12.39	.0616	.0654	0.0000
13	4.210	-8.952	0.00	14.48	.0641	.0662	0.0000
14	3.853	-8.977	0.00	16.76	.0638	.0669	0.0000
15	3.498	-9.002	0.00	19.28	.0593	.0676	0.0000
16	3.149	-9.026	0.00	22.12	.0482	.0682	0.0000
17	2.814	-9.050	0.00	25.39	.0281	.0687	0.0000
18	2.505	-9.071	0.00	29.12	-.0037	.0691	0.0000
19	2.240	-9.090	0.00	33.18	-.0468	.0694	0.0000
20	2.054	-9.103	0.00	36.86	-.0923	.0695	0.0000
21	1.984	-9.108	0.00	38.60	-.1171	.0695	0.0000

FREE STATION 6.000 IS INDEX 6

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-7.801	808.0	807.9	0.0	808.1	518.71	464.27
2	8.141	-7.877	819.3	819.2	0.0	819.5	518.71	462.73
3	7.786	-7.952	832.3	832.2	0.0	832.6	518.71	460.93
4	7.435	-8.019	841.3	841.4	0.0	841.8	518.71	459.63
5	7.088	-8.077	843.5	844.2	0.0	844.6	518.71	459.24
6	6.744	-8.129	838.1	840.1	0.0	840.5	518.71	459.82
7	6.402	-8.175	826.0	829.8	0.0	830.2	518.71	461.26
8	6.062	-8.216	807.8	814.2	0.0	814.6	518.71	463.40
9	5.725	-8.249	784.3	794.3	0.0	794.5	518.71	466.08
10	5.392	-8.263	756.0	770.7	0.0	770.8	518.71	469.18
11	5.064	-8.258	724.3	744.5	0.0	744.6	518.71	472.49
12	4.743	-8.238	691.2	717.6	0.0	717.6	518.71	475.79
13	4.427	-8.214	657.8	690.8	0.0	690.7	518.71	478.95
14	4.118	-8.191	624.9	664.8	0.0	664.6	518.71	481.90
15	3.816	-8.173	593.5	640.7	0.0	640.4	518.71	484.53
16	3.527	-8.158	565.4	620.2	0.0	619.7	518.71	486.70
17	3.258	-8.146	542.4	605.2	0.0	604.6	518.71	488.25
18	3.023	-8.136	525.4	596.9	0.0	596.2	518.71	489.08
19	2.837	-8.128	513.9	594.7	0.0	593.9	518.71	489.31
20	2.717	-8.122	507.1	595.8	0.0	595.0	518.71	489.20
21	2.675	-8.120	504.7	596.8	0.0	595.9	518.71	489.11

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	14.69	9.97	1.0000	1.0000	1701.9	.765	1.6108
2	8.141	14.69	9.86	1.0000	1.0000	1652.1	.777	1.5663
3	7.786	14.69	9.73	1.0000	1.0000	1604.8	.791	1.5244
4	7.435	14.69	9.63	1.0000	1.0000	1557.2	.801	1.4813
5	7.088	14.69	9.60	1.0000	1.0000	1507.6	.804	1.4347
6	6.744	14.69	9.64	1.0000	1.0000	1455.3	.799	1.3841
7	6.402	14.69	9.75	1.0000	1.0000	1400.4	.788	1.3298
8	6.062	14.69	9.91	1.0000	1.0000	1343.2	.772	1.2725
9	5.725	14.69	10.11	1.0000	1.0000	1284.0	.751	1.2129
10	5.392	14.69	10.35	1.0000	1.0000	1223.4	.726	1.1519
11	5.064	14.69	10.61	1.0000	1.0000	1162.2	.699	1.0904
12	4.743	14.69	10.87	1.0000	1.0000	1101.6	.671	1.0299
13	4.427	14.69	11.12	1.0000	1.0000	1042.1	.644	.9711
14	4.118	14.69	11.36	1.0000	1.0000	984.1	.617	.9143
15	3.816	14.69	11.58	1.0000	1.0000	928.8	.593	.8606
16	3.527	14.69	11.76	1.0000	1.0000	878.0	.573	.8116
17	3.258	14.69	11.89	1.0000	1.0000	834.2	.558	.7700
18	3.023	14.69	11.96	1.0000	1.0000	800.1	.550	.7378
19	2.837	14.69	11.98	1.0000	1.0000	777.0	.548	.7164
20	2.717	14.69	11.97	1.0000	1.0000	764.4	.549	.7048
21	2.675	14.69	11.97	1.0000	1.0000	760.5	.550	.7013

FREE STATION 6.000 IS INDEX 6

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-7.801	0.00	0.00	0.0000	.0580	.0285
2	8.141	-7.877	0.00	-.15	-.0239	.0575	.0290
3	7.786	-7.952	0.00	.34	-.0260	.0570	.0297
4	7.435	-8.019	0.00	1.29	-.0153	.0566	.0303
5	7.088	-8.077	0.00	2.54	.0003	.0564	.0310
6	6.744	-8.129	0.00	3.98	.0155	.0566	.0317
7	6.402	-8.175	0.00	5.55	.0278	.0571	.0323
8	6.062	-8.216	0.00	7.26	.0372	.0577	.0327
9	5.725	-8.249	0.00	9.13	.0455	.0586	.0331
10	5.392	-8.263	0.00	11.22	.0565	.0595	.0342
11	5.064	-8.258	0.00	13.43	.0673	.0606	.0358
12	4.743	-8.238	0.00	15.62	.0723	.0616	.0383
13	4.427	-8.214	0.00	17.79	.0721	.0627	.0412
14	4.118	-8.191	0.00	19.97	.0669	.0636	.0445
15	3.816	-8.173	0.00	22.16	.0563	.0645	.0513
16	3.527	-8.158	0.00	24.30	.0380	.0652	.0595
17	3.258	-8.146	0.00	26.36	.0085	.0657	.0705
18	3.023	-8.136	0.00	28.35	-.0295	.0660	.0818
19	2.837	-8.128	0.00	30.22	-.0695	.0661	.0922
20	2.717	-8.122	0.00	31.69	-.1022	.0661	.0997
21	2.675	-8.120	0.00	32.27	-.1152	.0660	.1024

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED
1	-55.15	7.32	1497.9
2	-53.85	8.09	1434.7
3	-52.96	7.11	1372.1
4	-51.67	5.33	1310.3
5	-50.40	3.54	1249.1
6	-49.59	2.49	1188.4
7	-48.83	1.58	1128.1
8	-48.08	.55	1068.2
9	-47.41	-.81	1008.8
10	-46.43	-2.14	950.1
11	-45.42	-3.17	892.4
12	-44.45	-3.21	835.8
13	-43.10	-2.89	780.2
14	-41.53	-2.33	725.6
15	-40.16	-1.23	672.5
16	-38.75	-.01	621.5
17	-36.89	1.62	574.2
18	-35.23	3.05	532.8
19	-33.61	4.20	500.0
20	-32.56	4.94	478.8
21	-32.20	5.20	471.4

STATION----- 6.200 IS INSIDE OF A ROTOR WITH INDEX 7

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-7.384	719.7	719.6	88.4	724.7	540.78	497.02
2	8.136	-7.422	744.9	744.8	101.6	751.6	542.97	495.92
3	7.785	-7.462	769.0	768.9	111.8	777.0	544.27	493.97
4	7.445	-7.499	787.5	787.5	118.9	796.7	544.69	491.81
5	7.112	-7.532	800.1	800.8	130.8	811.7	546.02	491.12
6	6.786	-7.562	807.8	810.0	144.4	823.1	547.47	491.02
7	6.463	-7.590	811.4	815.9	160.0	831.9	549.07	491.42
8	6.145	-7.614	812.5	820.2	175.8	839.2	550.43	491.76
9	5.832	-7.633	810.7	822.8	192.1	845.3	551.60	492.08
10	5.526	-7.644	806.4	824.4	209.4	850.8	552.67	492.37
11	5.223	-7.650	779.7	804.6	203.5	830.1	549.90	492.50
12	4.922	-7.653	749.2	781.5	192.7	805.0	546.54	492.56
13	4.622	-7.655	718.5	758.5	182.9	780.3	543.52	492.80
14	4.326	-7.656	688.7	736.8	174.5	757.1	540.87	493.11
15	4.037	-7.659	659.7	715.8	167.6	735.0	538.57	493.57
16	3.758	-7.664	632.4	695.7	161.3	713.9	536.50	494.04
17	3.496	-7.670	608.3	677.7	155.2	694.9	534.63	494.40
18	3.264	-7.676	588.8	662.9	149.2	679.0	533.01	494.60
19	3.080	-7.682	575.4	652.9	143.9	667.9	531.72	494.55
20	2.961	-7.685	568.2	647.8	140.1	662.0	530.89	494.36
21	2.919	-7.686	566.0	646.4	138.7	660.3	530.59	494.27

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	16.33	12.16	1.1111	1.0425	1582.5	.663	1.4477
2	8.136	16.62	12.11	1.1311	1.0468	1526.3	.688	1.3978
3	7.785	16.92	12.05	1.1513	1.0493	1476.2	.713	1.3545
4	7.445	17.17	12.02	1.1688	1.0501	1429.5	.733	1.3146
5	7.112	17.40	12.01	1.1842	1.0526	1378.9	.747	1.2690
6	6.786	17.61	12.04	1.1985	1.0555	1327.2	.758	1.2215
7	6.463	17.80	12.08	1.2113	1.0585	1274.4	.765	1.1724
8	6.145	17.99	12.13	1.2240	1.0611	1222.9	.772	1.1247
9	5.832	18.16	12.19	1.2362	1.0634	1172.8	.777	1.0782
10	5.526	18.34	12.24	1.2479	1.0655	1124.2	.782	1.0333
11	5.223	18.06	12.28	1.2291	1.0601	1077.7	.763	.9904
12	4.922	17.70	12.30	1.2045	1.0537	1032.4	.740	.9487
13	4.622	17.35	12.32	1.1809	1.0478	987.0	.717	.9068
14	4.326	17.05	12.34	1.1605	1.0427	942.6	.695	.8657
15	4.037	16.80	12.38	1.1431	1.0383	899.0	.675	.8252
16	3.758	16.57	12.42	1.1275	1.0343	857.3	.655	.7866
17	3.496	16.36	12.45	1.1136	1.0307	819.6	.637	.7518
18	3.264	16.19	12.46	1.1016	1.0276	788.0	.623	.7226
19	3.080	16.05	12.46	1.0922	1.0251	765.1	.613	.7017
20	2.961	15.96	12.44	1.0861	1.0235	751.9	.607	.6897
21	2.919	15.93	12.43	1.0839	1.0229	747.7	.606	.6858

STATION----- 6.200 IS INSIDE OF A ROTOR WITH INDEX 7

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-7.384	7.01	0.00	0.0000	.0660	.0650
2	8.136	-7.422	7.77	-.53	.0032	.0659	.0681
3	7.785	-7.462	8.28	-.07	.0040	.0659	.0727
4	7.445	-7.499	8.58	1.10	.0056	.0660	.0788
5	7.112	-7.532	9.28	2.65	.0065	.0660	.0873
6	6.786	-7.562	10.11	4.35	.0060	.0662	.0980
7	6.463	-7.590	11.10	6.11	.0043	.0663	.1097
8	6.145	-7.614	12.10	7.94	.0019	.0666	.1213
9	5.832	-7.633	13.14	9.90	-.0018	.0668	.1317
10	5.526	-7.644	14.25	12.06	-.0094	.0671	.1418
11	5.223	-7.650	14.19	14.33	-.0182	.0673	.1498
12	4.922	-7.653	13.85	16.56	-.0234	.0674	.1563
13	4.622	-7.655	13.56	18.72	-.0264	.0675	.1590
14	4.326	-7.656	13.32	20.84	-.0274	.0676	.1663
15	4.037	-7.659	13.18	22.86	-.0276	.0677	.1765
16	3.758	-7.664	13.05	24.66	-.0280	.0678	.1952
17	3.496	-7.670	12.89	26.18	-.0228	.0680	.2149
18	3.264	-7.676	12.68	27.38	-.0192	.0680	.2252
19	3.080	-7.682	12.43	28.22	-.0232	.0680	.2345
20	2.961	-7.685	12.20	28.74	-.0302	.0679	.2407
21	2.919	-7.686	12.11	28.91	-.0339	.0679	.2427

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED	LOSS COEF.
1	-59.78	-1.50	1497.9	.0514
2	-58.30	.38	1433.8	.0491
3	-56.70	.40	1372.0	.0368
4	-55.13	-.59	1311.9	.0181
5	-53.65	-2.60	1253.4	.0081
6	-52.03	-3.45	1195.8	-.0003
7	-50.29	-3.90	1139.0	-.0063
8	-48.39	-3.89	1083.0	-.0151
9	-46.25	-3.70	1027.8	-.0261
10	-44.00	-3.40	973.8	-.0390
11	-41.83	-2.60	920.5	-.0520
12	-39.81	-1.89	867.3	-.0621
13	-38.14	-1.33	814.5	-.0682
14	-36.59	-.98	762.4	-.0741
15	-35.05	-.73	711.5	-.0799
16	-33.21	.87	662.3	-.0848
17	-31.04	2.46	616.1	-.0879
18	-30.62	3.99	575.3	-.0889
19	-29.92	5.21	542.8	-.0885
20	-29.48	5.73	521.8	-.0878
21	-29.33	5.81	514.5	-.0974

STATION---- 6.400 IS INSIDE OF A ROTOR WITH INDEX 8

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-6.990	674.2	673.9	178.6	697.0	563.26	522.81
2	8.133	-6.989	704.8	704.6	201.8	732.8	566.86	522.15
3	7.785	-6.994	736.7	736.4	219.1	768.4	568.77	519.62
4	7.455	-7.002	761.7	761.6	230.4	795.9	569.12	516.38
5	7.137	-7.010	777.7	778.5	250.9	818.1	571.25	515.53
6	6.828	-7.017	788.8	791.2	274.2	837.6	573.65	515.25
7	6.525	-7.025	796.4	801.1	301.2	856.1	576.36	515.35
8	6.227	-7.033	804.2	812.0	327.6	875.9	578.56	514.70
9	5.936	-7.037	812.4	824.2	354.8	897.6	580.50	513.43
10	5.654	-7.035	822.0	839.1	386.2	924.0	582.77	511.70
11	5.377	-7.034	804.2	827.2	381.1	911.0	578.83	509.73
12	5.099	-7.039	780.3	810.1	368.5	890.2	573.84	507.87
13	4.820	-7.055	753.2	790.5	355.4	866.9	568.97	506.39
14	4.541	-7.078	725.7	771.1	341.5	843.5	564.22	504.97
15	4.266	-7.104	699.0	752.9	329.1	821.8	559.91	503.66
16	3.999	-7.129	672.0	734.7	317.9	800.6	556.02	502.64
17	3.746	-7.153	645.1	716.1	307.5	779.2	552.51	501.94
18	3.520	-7.176	620.2	698.1	297.7	758.8	549.47	501.52
19	3.338	-7.194	599.4	682.0	289.2	740.5	547.04	501.36
20	3.218	-7.207	585.4	670.5	283.1	727.5	545.45	501.36
21	3.176	-7.211	580.4	666.3	280.8	722.7	544.89	501.38

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	18.10	13.94	1.2315	1.0859	1481.4	.622	1.3213
2	8.133	18.66	14.00	1.2701	1.0928	1418.7	.654	1.2662
3	7.785	19.25	14.03	1.3099	1.0965	1367.9	.687	1.2238
4	7.455	19.76	14.06	1.3444	1.0972	1324.3	.714	1.1885
5	7.137	20.19	14.10	1.3742	1.1013	1272.7	.735	1.1432
6	6.828	20.60	14.15	1.4017	1.1059	1220.3	.753	1.0963
7	6.525	20.96	14.17	1.4264	1.1111	1167.0	.769	1.0484
8	6.227	21.31	14.16	1.4505	1.1154	1118.8	.787	1.0057
9	5.936	21.66	14.10	1.4743	1.1191	1075.7	.808	.9682
10	5.654	22.07	14.00	1.5018	1.1235	1037.5	.833	.9354
11	5.377	21.64	13.87	1.4730	1.1159	1002.5	.823	.9056
12	5.099	21.05	13.73	1.4327	1.1063	968.1	.806	.8761
13	4.820	20.42	13.59	1.3898	1.0969	932.2	.786	.8448
14	4.541	19.82	13.45	1.3489	1.0877	897.2	.766	.8143
15	4.266	19.29	13.32	1.3126	1.0794	863.5	.747	.7847
16	3.999	18.81	13.22	1.2804	1.0719	830.3	.728	.7553
17	3.746	18.40	13.15	1.2519	1.0652	798.2	.709	.7266
18	3.520	18.04	13.11	1.2275	1.0593	769.0	.691	.7003
19	3.338	17.75	13.09	1.2083	1.0546	744.7	.674	.6783
20	3.218	17.57	13.09	1.1958	1.0516	728.2	.663	.6633
21	3.176	17.51	13.09	1.1915	1.0505	722.4	.658	.6579

STATION----- 6.400 IS INSIDE OF A ROTOR WITH INDEX 8

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-6.990	14.85	0.00	0.0000	.0720	.1009
2	8.133	-6.989	15.98	-.46	.0028	.0724	.1020
3	7.785	-6.594	16.57	.12	.0101	.0729	.1057
4	7.455	-7.002	16.83	1.41	.0157	.0735	.1119
5	7.137	-7.010	17.86	3.00	.0172	.0738	.1224
6	6.828	-7.017	19.12	4.67	.0152	.0741	.1353
7	6.525	-7.025	20.60	6.36	.0111	.0742	.1503
8	6.227	-7.033	21.98	8.05	.0051	.0742	.1630
9	5.936	-7.037	23.29	9.82	-.0032	.0741	.1761
10	5.654	-7.035	24.72	11.67	-.0129	.0738	.1892
11	5.377	-7.034	24.74	13.62	-.0215	.0735	.2014
12	5.099	-7.039	24.46	15.65	-.0265	.0730	.2123
13	4.820	-7.055	24.21	17.73	-.0288	.0724	.2205
14	4.541	-7.078	23.89	19.81	-.0313	.0719	.2272
15	4.266	-7.104	23.61	21.87	-.0299	.0714	.2457
16	3.999	-7.129	23.40	23.88	-.0187	.0710	.2681
17	3.746	-7.153	23.24	25.77	-.0032	.0707	.2866
18	3.520	-7.176	23.10	27.37	.0172	.0705	.3055
19	3.338	-7.194	22.98	28.54	.0402	.0705	.3152
20	3.218	-7.207	22.89	29.23	.0570	.0705	.3215
21	3.176	-7.211	22.85	29.45	.0633	.0705	.3239

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED	LOSS COEF.
1	-63.14	-7.77	1497.9	.1000
2	-59.89	-4.57	1433.2	.0937
3	-56.71	-2.97	1371.9	.0695
4	-53.62	-2.56	1313.8	.0336
5	-50.66	-3.97	1257.8	.0141
6	-47.86	-4.15	1203.3	-.0025
7	-45.19	-3.43	1149.8	-.0143
8	-41.89	-2.43	1097.3	-.0313
9	-38.85	-1.71	1046.1	-.0528
10	-36.21	-1.96	996.4	-.0778
11	-33.77	-1.66	947.5	-.1043
12	-31.58	-.68	898.6	-.1270
13	-29.40	.08	849.4	-.1419
14	-27.47	.72	800.2	-.1558
15	-25.93	1.13	751.8	-.1690
16	-24.47	1.51	704.7	-.1805
17	-23.39	2.66	660.2	-.1888
18	-22.51	3.69	620.4	-.1926
19	-22.02	4.15	588.2	-.1923
20	-21.74	4.42	567.2	-.1903
21	-21.65	4.51	559.8	-.1893

STATION---- 6.600 IS INSIDE OF A ROTOR WITH INDEX 9

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-6.603	622.8	622.4	278.8	682.0	588.22	549.52
2	8.129	-6.562	663.2	662.9	306.6	730.4	591.83	547.45
3	7.787	-6.534	705.9	705.5	325.5	777.1	593.06	542.82
4	7.469	-6.514	739.2	739.2	335.8	812.1	592.27	537.40
5	7.166	-6.497	758.0	759.1	359.3	840.0	594.23	535.52
6	6.874	-6.483	770.9	773.8	386.4	865.2	596.62	534.34
7	6.588	-6.472	780.3	785.5	418.2	890.1	599.51	533.59
8	6.308	-6.464	791.6	799.8	448.7	917.4	601.72	531.70
9	6.036	-6.455	803.5	815.5	479.4	946.3	603.57	529.08
10	5.774	-6.440	817.4	834.1	516.6	981.5	606.19	526.05
11	5.520	-6.426	806.6	828.8	516.9	977.2	602.39	522.94
12	5.267	-6.421	789.2	818.5	510.5	965.0	597.56	520.08
13	5.012	-6.433	718.1	805.5	504.0	950.5	592.81	517.62
14	4.755	-6.465	743.3	791.7	494.4	933.7	587.67	515.11
15	4.499	-6.508	720.7	777.0	483.4	915.4	582.51	512.75
16	4.250	-6.552	694.2	761.9	472.7	896.9	577.65	510.68
17	4.015	-6.594	667.0	746.6	463.0	878.8	573.25	508.96
18	3.806	-6.631	641.2	732.2	454.3	861.9	569.44	507.59
19	3.636	-6.661	619.7	720.0	446.8	847.6	566.39	506.57
20	3.524	-6.681	605.3	711.6	441.5	837.6	564.36	505.95
21	3.484	-6.688	600.2	708.6	439.5	833.9	563.65	505.74

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	20.19	15.91	1.3742	1.1340	1368.8	.593	1.1909
2	8.129	20.96	15.95	1.4265	1.1410	1306.6	.637	1.1389
3	7.787	21.76	15.96	1.4807	1.1433	1262.3	.680	1.1050
4	7.469	22.44	15.96	1.5269	1.1418	1227.9	.714	1.0802
5	7.166	22.99	15.98	1.5648	1.1456	1180.2	.740	1.0401
6	6.874	23.50	15.97	1.5991	1.1502	1131.0	.763	.9978
7	6.588	23.93	15.92	1.6289	1.1558	1081.1	.786	.9544
8	6.308	24.36	15.80	1.6579	1.1600	1038.8	.811	.9188
9	6.036	24.78	15.62	1.6864	1.1636	1003.2	.839	.8895
10	5.774	25.32	15.41	1.7233	1.1686	973.0	.873	.8652
11	5.520	24.92	15.19	1.6959	1.1613	945.9	.871	.8436
12	5.267	24.32	14.96	1.6548	1.1520	918.9	.863	.8217
13	5.012	23.63	14.70	1.6085	1.1429	890.3	.852	.7980
14	4.755	22.91	14.45	1.5593	1.1330	863.0	.839	.7755
15	4.499	22.20	14.21	1.5110	1.1230	836.3	.824	.7532
16	4.250	21.55	14.00	1.4666	1.1136	810.4	.809	.7314
17	4.015	20.97	13.83	1.4272	1.1052	785.7	.794	.7102
18	3.806	20.48	13.70	1.3938	1.0978	763.5	.780	.6911
19	3.636	20.09	13.60	1.3673	1.0919	745.7	.768	.6757
20	3.524	19.84	13.54	1.3500	1.0880	733.9	.759	.6654
21	3.484	19.75	13.52	1.3439	1.0866	729.8	.756	.6618

STATION----- 6.600 IS INSIDE OF A ROTOR WITH INDEX 9

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-6.603	24.13	0.00	0.0000	.0782	.1197
2	8.129	-6.562	24.82	-.34	.0070	.0787	.1174
3	7.787	-6.534	24.77	.50	.0187	.0794	.1199
4	7.469	-6.514	24.43	1.96	.0242	.0802	.1255
5	7.166	-6.497	25.33	3.63	.0252	.0805	.1368
6	6.874	-6.483	26.54	5.27	.0237	.0807	.1496
7	6.588	-6.472	28.03	6.86	.0204	.0805	.1646
8	6.308	-6.464	29.29	8.40	.0163	.0802	.1777
9	6.036	-6.455	30.45	9.97	.0128	.0797	.1904
10	5.774	-6.440	31.77	11.62	.0105	.0791	.2017
11	5.520	-6.426	31.95	13.43	.0114	.0784	.2136
12	5.267	-6.421	31.95	15.46	.0160	.0776	.2247
13	5.012	-6.433	32.04	17.61	.0218	.0767	.2368
14	4.755	-6.465	31.99	19.78	.0284	.0757	.2492
15	4.499	-6.508	31.89	22.02	.0357	.0748	.2630
16	4.250	-6.552	31.82	24.39	.0443	.0740	.2816
17	4.015	-6.594	31.80	26.76	.0553	.0734	.3012
18	3.806	-6.631	31.82	28.92	.0661	.0728	.3177
19	3.636	-6.661	31.82	30.66	.0759	.0724	.3321
20	3.524	-6.681	31.81	31.77	.0841	.0722	.3425
21	3.484	-6.688	31.81	32.16	.0873	.0721	.3460

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED	LOSS COEF.
1	-61.37	-4.70	1497.9	.1498
2	-56.75	-1.61	1432.6	.1370
3	-52.80	-.69	1372.3	.0995
4	-49.34	-1.05	1316.2	.0466
5	-46.55	-2.95	1262.9	.0176
6	-43.64	-2.86	1211.3	-.0070
7	-40.70	-.57	1160.9	-.0246
8	-37.36	.80	1111.6	-.0494
9	-34.06	1.78	1063.7	-.0799
10	-31.08	1.13	1017.6	-.1156
11	-27.94	.30	972.8	-.1544
12	-24.95	1.83	928.2	-.1904
13	-21.94	3.50	883.3	-.2172
14	-19.53	3.62	838.0	-.2425
15	-17.47	3.68	792.8	-.2665
16	-16.13	3.30	748.9	-.2890
17	-14.84	2.93	707.6	-.3077
18	-14.39	3.37	670.7	-.3201
19	-14.08	3.76	640.8	-.3254
20	-13.89	4.02	621.0	-.3258
21	-13.82	4.09	614.0	-.3253

STATION---- 6.800 IS INSIDE OF A ROTOR WITH INDEX 10

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-6.204	537.5	536.9	398.6	668.9	618.04	580.87
2	8.128	-6.127	590.7	590.1	422.6	726.0	619.39	575.59
3	7.793	-6.068	639.5	639.1	434.3	773.0	617.95	568.28
4	7.489	-6.023	675.2	675.6	435.8	804.3	614.39	560.61
5	7.202	-5.985	689.2	691.0	454.9	827.7	614.78	557.83
6	6.926	-5.952	697.2	700.8	478.5	849.0	615.88	555.95
7	6.657	-5.925	700.7	706.6	507.2	870.3	617.70	554.74
8	6.394	-5.902	707.2	716.0	533.8	893.6	618.77	552.39
9	6.139	-5.881	714.6	726.9	560.0	918.0	619.49	549.42
10	5.897	-5.856	725.8	742.3	593.4	950.8	621.29	546.13
11	5.665	-5.829	721.8	743.5	603.1	957.8	618.86	542.58
12	5.439	-5.811	713.7	742.4	609.3	960.8	615.86	539.09
13	5.216	-5.808	700.6	738.2	617.4	962.8	613.13	536.03
14	4.991	-5.827	685.6	734.0	623.6	963.7	609.98	532.74
15	4.766	-5.869	666.8	727.6	626.8	960.8	606.31	529.52
16	4.546	-5.923	643.8	718.1	627.2	953.9	602.33	526.63
17	4.341	-5.977	619.5	707.8	627.4	946.3	598.58	524.07
18	4.158	-6.025	596.7	698.3	628.4	939.9	595.34	521.83
19	4.011	-6.063	577.7	690.6	629.3	934.8	592.73	520.02
20	3.914	-6.088	565.1	685.6	629.8	931.4	591.00	518.80
21	3.879	-6.097	560.7	683.9	629.9	930.3	590.39	518.37

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	22.88	18.41	1.5571	1.1915	1223.4	.566	1.0353
2	8.128	23.70	18.32	1.6126	1.1941	1159.5	.617	.9942
3	7.793	24.54	18.30	1.6702	1.1913	1135.9	.661	.9718
4	7.489	25.22	18.30	1.7164	1.1845	1112.5	.693	.9583
5	7.202	25.72	18.30	1.7503	1.1852	1068.0	.715	.9222
6	6.926	26.14	18.26	1.7789	1.1873	1020.7	.734	.8828
7	6.657	26.47	18.16	1.8016	1.1908	970.9	.754	.8407
8	6.394	26.80	18.00	1.8235	1.1929	929.7	.775	.8067
9	6.139	27.11	17.80	1.8448	1.1943	894.9	.799	.7786
10	5.897	27.59	17.56	1.8779	1.1978	865.8	.830	.7556
11	5.665	27.41	17.29	1.8654	1.1931	842.0	.839	.7372
12	5.439	27.07	16.98	1.8425	1.1873	820.4	.844	.7206
13	5.216	26.65	16.64	1.8134	1.1820	797.4	.848	.7024
14	4.991	26.16	16.28	1.7804	1.1760	777.4	.851	.6869
15	4.766	25.60	15.94	1.7425	1.1689	758.1	.852	.6719
16	4.546	25.01	15.63	1.7020	1.1612	738.8	.848	.6566
17	4.341	24.46	15.36	1.6646	1.1540	721.0	.843	.6423
18	4.158	23.99	15.13	1.6327	1.1477	706.0	.839	.6303
19	4.011	23.62	14.94	1.6074	1.1427	694.9	.836	.6215
20	3.914	23.38	14.82	1.5908	1.1394	688.2	.834	.6162
21	3.879	23.29	14.77	1.5819	1.1382	686.0	.833	.6145

STATION----- 6.800 IS INSIDE OF A ROTOR WITH INDEX 10

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-6.204	36.59	0.00	0.0000	.0855	.0885
2	8.128	-6.127	35.60	.45	.0552	.0859	.0830
3	7.793	-6.068	34.20	1.61	.0641	.0869	.0847
4	7.489	-6.023	32.82	3.14	.0593	.0881	.0890
5	7.202	-5.985	33.36	4.75	.0510	.0885	.0964
6	6.926	-5.952	34.32	6.30	.0439	.0887	.1055
7	6.657	-5.925	35.67	7.82	.0402	.0984	.1166
8	6.394	-5.902	36.71	9.30	.0388	.0880	.1258
9	6.139	-5.881	37.61	10.80	.0365	.0875	.1336
10	5.897	-5.856	38.64	12.33	.0309	.0868	.1403
11	5.665	-5.829	39.05	14.06	.0244	.0860	.1463
12	5.439	-5.811	39.38	16.14	.0214	.0850	.1555
13	5.216	-5.808	39.91	18.50	.0255	.0838	.1702
14	4.991	-5.827	40.35	21.05	.0370	.0825	.1850
15	4.766	-5.869	40.75	23.70	.0487	.0812	.1909
16	4.546	-5.923	41.14	26.38	.0542	.0801	.1972
17	4.341	-5.977	41.56	29.00	.0554	.0791	.2127
18	4.158	-6.025	41.98	31.38	.0555	.0782	.2295
19	4.011	-6.063	42.34	33.31	.0551	.0775	.2441
20	3.914	-6.088	42.57	34.57	.0542	.0771	.2575
21	3.879	-6.097	42.65	35.00	.0538	.0769	.2624

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED	LOSS COEF.
1	-58.52	1.92	1497.9	.2043
2	-53.56	2.86	1432.3	.1808
3	-49.90	2.03	1373.4	.1275
4	-46.72	.73	1319.7	.0568
5	-43.70	-1.02	1269.2	.0178
6	-40.62	-.18	1220.6	-.0147
7	-37.59	3.64	1173.1	-.0385
8	-33.99	5.89	1126.7	-.0707
9	-30.16	7.05	1081.9	-.1099
10	-26.61	7.48	1039.1	-.1554
11	-23.02	7.40	998.3	-.2064
12	-19.11	7.82	958.5	-.2574
13	-14.89	9.02	919.1	-.3003
14	-11.18	9.86	879.6	-.3439
15	-9.27	7.90	839.9	-.3869
16	-7.45	5.97	801.2	-.4285
17	-6.16	5.02	764.9	-.4663
18	-5.03	4.34	732.7	-.4957
19	-4.24	3.80	706.8	-.5139
20	-3.99	3.75	689.7	-.5219
21	-3.91	3.74	683.7	-.5238

ROTOR 1 STATION 7.000 FLOW 61.22 ASPECT RATIO 1.42
 STA NO. 11 RPM 20194. TIP SPEED 1498. NO. OF BLADES 20

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-5.775	543.4	543.6	550.0	773.1	655.67	606.07
2	8.137	-5.670	603.3	603.7	554.6	819.5	650.91	595.16
3	7.814	-5.588	660.6	661.8	547.1	858.4	643.97	582.78
4	7.523	-5.522	702.1	704.4	530.0	881.4	635.58	571.04
5	7.252	-5.466	714.9	718.8	536.4	896.7	632.72	565.91
6	6.991	-5.419	720.6	726.5	548.1	910.0	631.03	562.22
7	6.738	-5.377	719.8	728.2	565.4	921.8	630.38	559.77
8	6.492	-5.343	721.5	732.9	579.9	934.4	629.05	556.48
9	6.254	-5.313	723.6	738.6	593.4	947.4	627.49	552.89
10	6.028	-5.280	729.3	748.6	614.5	968.4	627.28	549.32
11	5.816	-5.245	734.5	759.3	638.4	991.9	627.54	545.75
12	5.616	-5.215	736.7	768.5	663.7	1015.3	627.95	542.26
13	5.426	-5.197	733.6	774.2	692.5	1038.6	628.84	539.16
14	5.244	-5.194	729.6	781.5	721.6	1063.6	629.63	535.58
15	5.070	-5.207	724.3	789.8	751.0	1089.8	630.32	531.58
16	4.903	-5.238	716.2	797.2	779.4	1114.8	630.73	527.39
17	4.746	-5.280	703.7	801.8	807.0	1137.6	630.97	523.36
18	4.605	-5.326	687.3	802.9	833.1	1157.0	631.16	519.83
19	4.491	-5.364	670.2	801.2	855.3	1171.9	631.29	517.09
20	4.416	-5.390	657.0	798.7	870.4	1181.3	631.38	515.32
21	4.390	-5.400	652.1	797.5	875.9	1184.6	631.40	514.71

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	26.57	20.16	1.8080	1.2640	1092.7	.640	.9052
2	8.137	27.08	19.78	1.8433	1.2549	1066.6	.685	.8916
3	7.814	27.70	19.51	1.8848	1.2415	1061.5	.725	.8967
4	7.523	28.10	19.31	1.9126	1.2253	1062.8	.752	.9070
5	7.252	28.28	19.12	1.9243	1.2198	1032.8	.769	.8855
6	6.991	28.36	18.92	1.9300	1.2165	997.8	.783	.8582
7	6.738	28.35	18.69	1.9293	1.2153	957.7	.795	.8255
8	6.492	28.34	18.44	1.9287	1.2127	924.9	.808	.7996
9	6.254	28.33	18.18	1.9283	1.2097	896.9	.822	.7779
10	6.028	28.53	17.92	1.9419	1.2093	872.4	.843	.7591
11	5.816	28.79	17.65	1.9596	1.2098	852.0	.866	.7438
12	5.616	29.01	17.35	1.9745	1.2106	834.8	.889	.7311
13	5.426	29.16	17.01	1.9843	1.2123	817.9	.912	.7184
14	5.244	29.29	16.62	1.9930	1.2138	807.3	.937	.7115
15	5.070	29.40	16.19	2.0007	1.2152	802.6	.964	.7099
16	4.903	29.46	15.74	2.0052	1.2160	801.7	.990	.7119
17	4.746	29.50	15.33	2.0079	1.2164	802.3	1.014	.7153
18	4.605	29.53	14.97	2.0100	1.2168	803.2	1.035	.7184
19	4.491	29.56	14.69	2.0115	1.2171	803.7	1.051	.7208
20	4.416	29.57	14.52	2.0124	1.2172	804.0	1.061	.7223
21	4.390	29.57	14.46	2.0127	1.2173	804.0	1.065	.7228

ROTOR 1 STATION 7.000 FLOW 61.22 ASPECT RATIO 1.42
 STA. NO. 11 RPM 20194. TIP SPEED 1498. NO. OF BLADES 20

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE	D- FACTOR
1	8.500	-5.775	45.34	0.00	0.0000	.0898	.1231	.4677
2	8.137	-5.670	42.57	1.61	.0241	.0897	.1226	.4627
3	7.814	-5.588	39.58	3.06	.0310	.0904	.1225	.4458
4	7.503	-5.522	36.96	4.47	.0259	.0913	.1224	.4235
5	7.252	-5.466	36.73	5.84	.0180	.0912	.1223	.4216
6	6.991	-5.419	37.03	7.21	.0121	.0908	.1224	.4240
7	6.738	-5.377	37.83	8.60	.0080	.0901	.1226	.4310
8	6.492	-5.343	38.35	10.04	.0057	.0895	.1229	.4332
9	6.254	-5.313	38.78	11.51	.0057	.0888	.1231	.4310
10	6.028	-5.280	39.38	13.00	.0082	.0881	.1233	.4261
11	5.816	-5.245	40.06	14.63	.0079	.0873	.1235	.4166
12	5.616	-5.215	40.81	16.49	-.0018	.0864	.1237	.4016
13	5.426	-5.197	41.81	18.61	-.0212	.0851	.1256	.3862
14	5.244	-5.194	42.72	20.98	-.0469	.0837	.1286	.3657
15	5.070	-5.207	43.56	23.47	-.0711	.0822	.1316	.3366
16	4.903	-5.238	44.35	26.03	-.0856	.0806	.1422	.3001
17	4.746	-5.280	45.19	28.62	-.0884	.0790	.1565	.2619
18	4.605	-5.326	46.06	31.10	-.0825	.0777	.1701	.2263
19	4.491	-5.364	46.87	33.20	-.0718	.0767	.1828	.1993
20	4.416	-5.390	47.46	34.63	-.0613	.0760	.1976	.1831
21	4.390	-5.400	47.68	35.14	-.0568	.0758	.2030	.1778

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED	INCID- ENCE	DEVIA- TION	LOSS COEF.	ADIAB. EFFIC.	POLYT. EFFIC.
1	-54.29	9.71	1497.9	-6.507	-5.879	.2658	69.74	72.14
2	-50.39	7.15	1433.9	-6.423	-5.141	.2225	74.83	76.89
3	-47.33	5.01	1377.0	-5.806	-4.103	.1585	82.14	83.65
4	-44.38	3.40	1325.8	-5.623	-4.106	.0860	90.27	91.12
5	-41.37	2.37	1278.0	-5.546	-4.524	.0590	93.50	94.07
6	-38.08	4.44	1232.1	-5.155	-5.186	.0434	95.38	95.79
7	-34.70	9.39	1187.4	-4.829	-5.802	.0407	95.88	96.24
8	-31.08	13.13	1144.0	-4.602	-6.508	.0312	96.99	97.25
9	-27.23	15.57	1102.1	-4.375	-7.326	.0180	98.34	98.49
10	-23.48	17.72	1062.3	-4.521	-7.410	.0032	99.69	99.72
11	-18.46	19.17	1024.8	-4.743	-8.509	-.0128	100.94	100.86
12	-13.85	20.51	989.6	-4.901	-9.136	-.0262	101.81	101.64
13	-8.31	21.50	956.2	-5.376	-10.505	-.0285	101.80	101.63
14	-2.66	22.28	924.2	-5.979	-11.870	-.0311	101.79	101.62
15	1.99	23.02	893.5	-6.219	-12.221	-.0340	101.77	101.61
16	5.96	21.97	864.1	-6.306	-12.026	-.0370	101.77	101.60
17	9.50	20.14	836.3	-6.608	-11.591	-.0400	101.76	101.60
18	12.56	18.46	811.5	-6.517	-11.011	-.0425	101.76	101.59
19	15.04	17.20	791.5	-6.444	-10.483	-.0444	101.76	101.59
20	16.31	17.00	778.3	-6.220	-9.728	-.0454	101.75	101.59
21	16.75	16.93	773.6	-6.109	-9.443	-.0457	101.75	101.59

FREE STATION 8.000 IS INDEX 12

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-4.889	602.8	602.8	550.0	815.8	655.67	600.43
2	8.167	-4.817	648.7	649.2	552.5	852.3	650.91	590.61
3	7.867	-4.763	698.8	700.3	543.4	886.3	643.97	578.74
4	7.594	-4.714	737.6	740.4	525.2	907.7	635.58	567.13
5	7.338	-4.673	751.7	756.1	530.1	923.4	632.72	561.87
6	7.093	-4.644	759.7	765.9	540.3	937.3	631.03	558.02
7	6.854	-4.624	761.2	769.8	555.8	949.5	630.38	555.45
8	6.623	-4.611	764.8	776.4	568.4	962.3	629.05	552.08
9	6.399	-4.606	769.2	784.6	579.9	975.7	627.49	548.35
10	6.184	-4.611	778.0	798.2	598.9	997.9	627.28	544.50
11	5.979	-4.625	786.7	812.5	621.0	1022.7	627.54	540.59
12	5.783	-4.647	791.7	824.3	644.4	1046.3	627.95	536.93
13	5.597	-4.679	790.4	830.9	671.3	1068.2	628.84	533.97
14	5.418	-4.720	787.0	836.5	698.4	1089.7	629.63	530.89
15	5.249	-4.769	781.9	841.9	725.4	1111.2	630.32	527.64
16	5.092	-4.823	775.5	847.6	750.5	1132.1	630.73	524.15
17	4.950	-4.880	768.7	854.6	773.8	1152.8	630.97	520.45
18	4.827	-4.934	761.8	862.5	794.8	1172.8	631.16	516.76
19	4.731	-4.978	755.4	869.9	811.9	1189.9	631.29	513.54
20	4.670	-5.006	750.6	875.3	823.1	1201.5	631.38	511.30
21	4.649	-5.016	748.7	877.3	827.0	1205.7	631.40	510.50

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	26.57	19.51	1.8080	1.2640	815.8	.679	.6790
2	8.167	27.08	19.26	1.8433	1.2549	852.3	.715	.7152
3	7.867	27.70	19.04	1.8848	1.2415	886.3	.751	.7513
4	7.594	28.10	18.85	1.9126	1.2253	907.7	.777	.7773
5	7.338	28.28	18.65	1.9243	1.2198	923.4	.794	.7945
6	7.093	28.36	18.43	1.9300	1.2165	937.3	.809	.8092
7	6.854	28.35	18.19	1.9293	1.2153	949.5	.822	.8217
8	6.623	28.34	17.94	1.9287	1.2127	962.3	.835	.8352
9	6.399	28.33	17.67	1.9283	1.2097	975.7	.850	.8498
10	6.184	28.53	17.38	1.9419	1.2093	997.9	.872	.8721
11	5.979	28.79	17.08	1.9596	1.2098	1022.7	.897	.8970
12	5.783	29.01	16.76	1.9745	1.2106	1046.3	.921	.9209
13	5.597	29.16	16.44	1.9843	1.2123	1068.2	.943	.9427
14	5.418	29.29	16.11	1.9930	1.2138	1089.7	.965	.9645
15	5.249	29.40	15.77	2.0007	1.2152	1111.2	.987	.9866
16	5.092	29.46	15.41	2.0052	1.2160	1132.1	1.008	1.0085
17	4.950	29.50	15.03	2.0079	1.2164	1152.8	1.031	1.0306
18	4.827	29.53	14.66	2.0100	1.2168	1172.8	1.052	1.0522
19	4.731	29.56	14.34	2.0115	1.2171	1189.9	1.071	1.0709
20	4.670	29.57	14.13	2.0124	1.2172	1201.5	1.084	1.0837
21	4.649	29.57	14.05	2.0127	1.2173	1205.7	1.088	1.0882

FREE STATION 8.000 IS INDEX 12

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-4.889	42.38	0.00	0.0000	.0877	.1050
2	8.167	-4.817	40.40	2.16	.0050	.0880	.1045
3	7.867	-4.763	37.81	3.79	.0075	.0888	.1043
4	7.594	-4.714	35.35	5.04	.0041	.0897	.1042
5	7.338	-4.673	35.03	6.15	-.0018	.0896	.1042
6	7.093	-4.644	35.20	7.32	-.0067	.0891	.1042
7	6.854	-4.624	35.83	8.58	-.0099	.0884	.1044
8	6.623	-4.611	36.21	9.95	-.0116	.0877	.1046
9	6.399	-4.606	36.47	11.39	-.0137	.0870	.1049
10	6.184	-4.611	36.88	12.90	-.0157	.0861	.1052
11	5.979	-4.625	37.39	14.50	-.0171	.0853	.1056
12	5.783	-4.647	38.02	16.18	-.0187	.0843	.1061
13	5.597	-4.679	38.94	17.94	-.0209	.0831	.1067
14	5.418	-4.720	39.86	19.81	-.0252	.0819	.1073
15	5.249	-4.769	40.75	21.76	-.0332	.0807	.1080
16	5.092	-4.823	41.52	23.80	-.0489	.0793	.1088
17	4.950	-4.880	42.16	25.91	-.0744	.0780	.1095
18	4.827	-4.934	42.66	27.96	-.1051	.0766	.1101
19	4.731	-4.978	43.02	29.73	-.1339	.0754	.1107
20	4.670	-5.006	43.24	30.97	-.1548	.0746	.1110
21	4.649	-5.016	43.31	31.41	-.1626	.0743	.1111

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE
1	41.50	5.73
2	39.00	3.80
3	37.50	2.03
4	37.36	.48
5	37.48	-.91
6	37.08	-2.12
7	36.47	-3.53
8	35.91	-5.07
9	36.27	-7.10
10	36.71	-9.17
11	37.26	-11.30
12	38.00	-13.65
13	38.72	-16.04
14	39.75	-19.10
15	40.85	-22.23
16	41.86	-25.66
17	42.72	-29.02
18	43.39	-31.76
19	44.28	-33.79
20	44.83	-35.03
21	45.01	-35.46

STATOR 1 STATION 9.000 FLOW 61.22 ASPECT RATIO 1.40
 STA NO. 13 NO VANES 31

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-2.220	699.0	699.0	0.0	699.0	655.67	615.13
2	8.234	-2.243	716.4	716.4	0.0	716.4	650.91	608.32
3	7.983	-2.266	738.6	738.8	0.0	738.8	643.97	598.66
4	7.749	-2.290	759.6	760.1	0.0	760.0	635.58	587.61
5	7.528	-2.312	771.0	771.8	0.0	771.8	632.72	583.24
6	7.318	-2.334	779.3	780.7	0.0	780.6	631.03	580.41
7	7.118	-2.356	786.1	788.1	0.0	788.1	630.38	578.79
8	6.926	-2.375	789.7	792.4	0.0	792.4	629.05	576.88
9	6.745	-2.393	794.7	798.2	0.0	798.2	627.49	574.56
10	6.575	-2.410	812.6	817.0	0.0	817.0	627.28	571.81
11	6.419	-2.425	830.3	835.9	0.0	835.8	627.54	569.49
12	6.276	-2.439	841.8	848.6	0.0	848.6	627.95	568.12
13	6.145	-2.451	852.1	860.2	0.0	860.2	628.84	567.36
14	6.028	-2.462	862.1	871.5	0.0	871.5	629.63	566.51
15	5.925	-2.472	871.4	882.3	0.0	882.3	630.32	565.64
16	5.837	-2.482	879.6	891.9	0.0	891.9	630.73	564.62
17	5.763	-2.490	886.7	900.3	0.0	900.3	630.97	563.62
18	5.705	-2.497	892.4	907.1	0.0	907.1	631.16	562.78
19	5.664	-2.503	896.6	912.2	0.0	912.2	631.29	562.14
20	5.638	-2.506	899.2	915.4	0.0	915.4	631.38	561.75
21	5.630	-2.507	900.1	916.4	0.0	916.4	631.40	561.61

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	26.11	20.87	.9828	1.0000	699.0	.575	.5748
2	8.234	26.44	20.85	.9763	1.0000	716.4	.592	.5924
3	7.983	26.90	20.82	.9713	1.0000	738.8	.616	.6158
4	7.749	27.37	20.78	.9738	1.0000	760.0	.639	.6394
5	7.528	27.57	20.72	.9751	1.0000	771.8	.652	.6518
6	7.318	27.68	20.64	.9759	1.0000	780.6	.661	.6608
7	7.118	27.71	20.54	.9775	1.0000	788.1	.668	.6681
8	6.926	27.66	20.42	.9760	1.0000	792.4	.673	.6728
9	6.745	27.62	20.28	.9749	1.0000	798.2	.679	.6791
10	6.575	27.84	20.13	.9758	1.0000	817.0	.697	.6968
11	6.419	28.04	19.96	.9740	1.0000	835.8	.714	.7143
12	6.276	28.09	19.77	.9682	1.0000	848.6	.726	.7261
13	6.145	28.09	19.59	.9635	1.0000	860.2	.736	.7365
14	6.028	28.10	19.40	.9594	1.0000	871.5	.747	.7468
15	5.925	28.10	19.23	.9558	1.0000	882.3	.757	.7565
16	5.837	28.10	19.06	.9537	1.0000	891.9	.765	.7655
17	5.763	28.10	18.92	.9525	1.0000	900.3	.773	.7734
18	5.705	28.10	18.80	.9516	1.0000	907.1	.780	.7798
19	5.664	28.10	18.71	.9509	1.0000	912.2	.785	.7846
20	5.638	28.10	18.66	.9504	1.0000	915.4	.788	.7876
21	5.630	28.10	18.64	.9503	1.0000	916.4	.789	.7886

STATOR 1 STATION 9.000 FLOW 61.22 ASPECT RATIO 1.40
STA NO. 13 NO VANES 31

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE	D- FACTOR
1	8.500	-2.220	0.00	0.00	0.0000	.0916	.0571	.3628
2	8.234	-2.243	0.00	.72	-.0035	.0925	.0570	.3701
3	7.983	-2.266	0.00	1.39	-.0070	.0939	.0570	.3648
4	7.749	-2.290	0.00	2.05	-.0120	.0955	.0570	.3476
5	7.528	-2.312	0.00	2.71	-.0189	.0959	.0570	.3431
6	7.318	-2.334	0.00	3.37	-.0267	.0960	.0571	.3439
7	7.118	-2.356	0.00	4.03	-.0353	.0958	.0571	.3471
8	6.926	-2.375	0.00	4.68	-.0443	.0955	.0572	.3542
9	6.745	-2.393	0.00	5.32	-.0532	.0953	.0574	.3585
10	6.575	-2.410	0.00	5.97	-.0627	.0950	.0575	.3543
11	6.419	-2.425	0.00	6.62	-.0727	.0946	.0577	.3522
12	6.276	-2.439	0.00	7.26	-.0823	.0939	.0579	.3546
13	6.145	-2.451	0.00	7.87	-.0909	.0932	.0581	.3574
14	6.028	-2.462	0.00	8.46	-.0987	.0924	.0584	.3590
15	5.925	-2.472	0.00	9.01	-.1055	.0917	.0586	.3611
16	5.837	-2.482	0.00	9.52	-.1115	.0911	.0587	.3630
17	5.763	-2.490	0.00	9.97	-.1166	.0906	.0587	.3655
18	5.705	-2.497	0.00	10.34	-.1208	.0902	.0587	.3689
19	5.664	-2.503	0.00	10.62	-.1239	.0899	.0587	.3725
20	5.638	-2.506	0.00	10.79	-.1258	.0897	.0588	.3751
21	5.630	-2.507	0.00	10.85	-.1264	.0896	.0588	.3761

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	INCID- ENCE	DEVIA- TION	LOSS COEF.	ADIAB. EFFIC.	POLYT. EFFIC.
1	-8.96	-.02	.879	8.960	.0646	67.53	70.03
2	-8.20	-.01	1.395	8.198	.0819	71.65	73.87
3	-7.64	-.01	.311	7.642	.0920	78.02	79.80
4	-7.24	.00	-2.016	7.238	.0795	86.24	87.39
5	-7.00	.00	-2.449	7.004	.0732	89.56	90.44
6	-6.80	.00	-1.873	6.802	.0688	91.51	92.23
7	-6.67	.00	-.639	6.673	.0628	92.25	92.91
8	-6.56	-.00	.298	6.563	.0654	93.07	93.66
9	-6.47	-.00	.201	6.473	.0667	94.18	94.67
10	-6.40	-.00	.173	6.401	.0620	95.66	96.03
11	-6.37	-.01	.128	6.369	.0640	96.61	96.90
12	-6.34	-.01	.011	6.338	.0754	96.50	96.81
13	-6.34	-.01	.220	6.342	.0836	95.75	96.12
14	-6.35	-.01	.105	6.348	.0902	95.09	95.52
15	-6.35	-.01	-.106	6.348	.0952	94.52	94.99
16	-6.39	-.02	-.334	6.388	.0970	94.18	94.69
17	-6.46	-.02	-.562	6.464	.0968	93.98	94.51
18	-6.52	-.03	-.726	6.520	.0962	93.83	94.37
19	-6.56	-.04	-1.254	6.557	.0955	93.72	94.27
20	-6.58	-.04	-1.588	6.579	.0949	93.66	94.21
21	-6.59	-.04	-1.701	6.586	.0947	93.63	94.19

FREE STATION 10.000 IS INDEX 14

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-1.650	690.5	690.4	0.0	690.5	655.67	616.12
2	8.240	-1.650	707.3	707.3	0.0	707.4	650.91	609.39
3	7.997	-1.650	728.8	728.9	0.0	729.0	643.97	599.86
4	7.769	-1.650	749.3	749.6	0.0	749.6	635.58	588.92
5	7.556	-1.650	760.1	760.6	0.0	760.6	632.72	584.67
6	7.353	-1.650	767.9	768.6	0.0	768.6	631.03	581.96
7	7.160	-1.650	774.3	775.1	0.0	775.1	630.38	580.47
8	6.976	-1.650	777.4	778.5	0.0	778.5	629.05	578.70
9	6.802	-1.650	782.2	783.5	0.0	783.6	627.49	576.48
10	6.640	-1.650	800.7	802.3	0.0	802.3	627.28	573.79
11	6.491	-1.650	819.7	821.5	0.0	821.6	627.54	571.46
12	6.356	-1.650	833.1	835.2	0.0	835.3	627.95	569.99
13	6.233	-1.650	846.3	848.5	0.0	848.6	628.84	569.00
14	6.123	-1.650	860.2	862.6	0.0	862.7	629.63	567.79
15	6.027	-1.650	874.4	876.8	0.0	877.0	630.32	566.41
16	5.945	-1.650	888.2	890.7	0.0	890.8	630.73	564.78
17	5.878	-1.650	901.0	903.5	0.0	903.7	630.97	563.11
18	5.825	-1.650	912.1	914.6	0.0	914.7	631.16	561.62
19	5.787	-1.650	920.7	923.2	0.0	923.3	631.29	560.45
20	5.764	-1.650	926.2	928.6	0.0	928.8	631.38	559.69
21	5.757	-1.650	928.0	930.5	0.0	930.7	631.40	559.43

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	26.11	20.99	1.7769	1.2640	690.5	.567	.5673
2	8.240	26.44	20.98	1.7996	1.2549	707.4	.584	.5844
3	7.997	26.90	20.97	1.8307	1.2415	729.0	.607	.6070
4	7.769	27.37	20.95	1.8625	1.2253	749.6	.630	.6299
5	7.556	27.57	20.90	1.8764	1.2198	760.6	.642	.6415
6	7.353	27.68	20.84	1.8835	1.2165	768.6	.650	.6498
7	7.160	27.71	20.75	1.8859	1.2153	775.1	.656	.6561
8	6.976	27.66	20.65	1.8824	1.2127	778.5	.660	.6600
9	6.802	27.62	20.52	1.8799	1.2097	783.6	.666	.6656
10	6.640	27.84	20.37	1.8948	1.2093	802.3	.683	.6831
11	6.491	28.04	20.20	1.9085	1.2098	821.6	.701	.7009
12	6.356	28.09	20.00	1.9116	1.2106	835.3	.713	.7135
13	6.233	28.09	19.79	1.9119	1.2123	848.6	.726	.7255
14	6.123	28.10	19.56	1.9122	1.2138	862.7	.738	.7383
15	6.027	28.10	19.32	1.9123	1.2152	877.0	.751	.7515
16	5.945	28.10	19.08	1.9124	1.2160	890.8	.764	.7645
17	5.878	28.10	18.86	1.9125	1.2164	903.7	.777	.7766
18	5.825	28.10	18.67	1.9126	1.2168	914.7	.787	.7872
19	5.787	28.10	18.52	1.9126	1.2171	923.3	.795	.7954
20	5.764	28.10	18.42	1.9127	1.2172	928.8	.801	.8007
21	5.757	28.10	18.39	1.9127	1.2173	930.7	.802	.8025

FREE STATION 10.000 IS INDEX 14

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.000	-1.650	0.00	0.00	0.0000	.0919	.0252
2	8.240	-1.650	0.00	.63	-.0024	.0929	.0252
3	7.997	-1.650	0.00	1.18	-.0073	.0944	.0252
4	7.769	-1.650	0.00	1.66	-.0144	.0960	.0252
5	7.556	-1.650	0.00	2.09	-.0228	.0965	.0252
6	7.353	-1.650	0.00	2.48	-.0318	.0966	.0252
7	7.160	-1.650	0.00	2.84	-.0416	.0965	.0252
8	6.976	-1.650	0.00	3.16	-.0522	.0963	.0252
9	6.802	-1.650	0.00	3.45	-.0640	.0961	.0252
10	6.640	-1.650	0.00	3.70	-.0776	.0958	.0252
11	6.491	-1.650	0.00	3.91	-.0932	.0954	.0252
12	6.356	-1.650	0.00	4.07	-.1107	.0947	.0252
13	6.233	-1.650	0.00	4.19	-.1299	.0939	.0252
14	6.123	-1.650	0.00	4.27	-.1504	.0930	.0252
15	6.027	-1.650	0.00	4.31	-.1717	.0921	.0252
16	5.945	-1.650	0.00	4.33	-.1928	.0912	.0252
17	5.878	-1.650	0.00	4.31	-.2125	.0904	.0252
18	5.825	-1.650	0.00	4.29	-.2295	.0897	.0252
19	5.787	-1.650	0.00	4.26	-.2427	.0892	.0252
20	5.764	-1.650	0.00	4.24	-.2511	.0888	.0252
21	5.757	-1.650	0.00	4.24	-.2539	.0887	.0252

FREE STATION 11.000 IS INDEX 15

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-1.350	714.1	714.1	0.0	714.1	655.67	613.36
2	8.244	-1.350	730.2	730.2	0.0	730.2	650.91	606.66
3	8.002	-1.350	750.9	751.1	0.0	751.0	643.97	597.15
4	7.777	-1.350	770.5	770.7	0.0	770.7	635.58	586.25
5	7.565	-1.350	780.5	780.9	0.0	780.8	632.72	582.08
6	7.364	-1.350	787.2	787.6	0.0	787.6	631.03	579.50
7	7.172	-1.350	792.1	792.5	0.0	792.5	630.38	578.20
8	6.989	-1.350	793.3	793.8	0.0	793.8	629.05	576.70
9	6.815	-1.350	795.6	796.1	0.0	796.1	627.49	574.83
10	6.653	-1.350	810.6	811.1	0.0	811.1	627.28	572.61
11	6.504	-1.350	825.1	825.6	0.0	825.6	627.54	570.90
12	6.368	-1.350	833.0	833.4	0.0	833.4	627.95	570.24
13	6.244	-1.350	839.2	839.6	0.0	839.6	628.84	570.27
14	6.133	-1.350	844.7	845.0	0.0	845.0	629.63	570.30
15	6.035	-1.350	849.2	849.4	0.0	849.4	630.32	570.37
16	5.951	-1.350	852.5	852.6	0.0	852.6	630.73	570.33
17	5.882	-1.350	854.6	854.7	0.0	854.7	630.97	570.27
18	5.828	-1.350	855.8	855.9	0.0	855.9	631.16	570.30
19	5.788	-1.350	856.4	856.4	0.0	856.4	631.29	570.36
20	5.765	-1.350	856.6	856.6	0.0	856.6	631.38	570.41
21	5.757	-1.350	856.6	856.6	0.0	856.6	631.40	570.44

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	26.11	20.66	1.7769	1.2640	714.1	.588	.5880
2	8.244	26.44	20.65	1.7996	1.2549	730.2	.605	.6046
3	8.002	26.90	20.64	1.8307	1.2415	751.0	.627	.6268
4	7.777	27.37	20.62	1.8625	1.2253	770.7	.649	.6491
5	7.565	27.57	20.58	1.8764	1.2198	780.8	.660	.6600
6	7.364	27.68	20.53	1.8835	1.2165	787.6	.667	.6672
7	7.172	27.71	20.47	1.8859	1.2153	792.5	.672	.6721
8	6.989	27.66	20.40	1.8824	1.2127	793.8	.674	.6741
9	6.815	27.62	20.32	1.8799	1.2097	796.1	.677	.6772
10	6.653	27.84	20.23	1.8948	1.2093	811.1	.691	.6913
11	6.504	28.04	20.13	1.9085	1.2098	825.6	.705	.7047
12	6.368	28.09	20.03	1.9116	1.2106	833.4	.712	.7118
13	6.244	28.09	19.94	1.9119	1.2123	839.6	.717	.7170
14	6.133	28.10	19.86	1.9122	1.2138	845.0	.722	.7216
15	6.035	28.10	19.80	1.9123	1.2152	849.4	.725	.7253
16	5.951	28.10	19.75	1.9124	1.2160	852.6	.728	.7281
17	5.882	28.10	19.71	1.9125	1.2164	854.7	.730	.7299
18	5.828	28.10	19.70	1.9126	1.2168	855.9	.731	.7309
19	5.788	28.10	19.69	1.9126	1.2171	856.4	.731	.7313
20	5.765	28.10	19.69	1.9127	1.2172	856.6	.731	.7314
21	5.757	28.10	19.69	1.9127	1.2173	856.6	.731	.7315

FREE STATION 11.000 IS INDEX 15

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-1.350	0.00	0.00	0.0000	.0909	.0345
2	8.244	-1.350	0.00	.56	-.0044	.0919	.0345
3	8.002	-1.350	0.00	1.01	-.0088	.0933	.0345
4	7.777	-1.350	0.00	1.35	-.0135	.0949	.0345
5	7.565	-1.350	0.00	1.61	-.0186	.0954	.0345
6	7.364	-1.350	0.00	1.82	-.0239	.0956	.0345
7	7.172	-1.350	0.00	1.98	-.0295	.0956	.0345
8	6.989	-1.350	0.00	2.09	-.0352	.0955	.0345
9	6.815	-1.350	0.00	2.14	-.0407	.0954	.0345
10	6.653	-1.350	0.00	2.13	-.0455	.0953	.0345
11	6.504	-1.350	0.00	2.04	-.0491	.0952	.0345
12	6.368	-1.350	0.00	1.90	-.0510	.0948	.0345
13	6.244	-1.350	0.00	1.70	-.0508	.0944	.0345
14	6.133	-1.350	0.00	1.45	-.0480	.0940	.0345
15	6.035	-1.350	0.00	1.17	-.0426	.0937	.0345
16	5.951	-1.350	0.00	.88	-.0348	.0934	.0345
17	5.882	-1.350	0.00	.60	-.0255	.0933	.0345
18	5.828	-1.350	0.00	.36	-.0160	.0932	.0345
19	5.788	-1.350	0.00	.17	-.0077	.0932	.0345
20	5.765	-1.350	0.00	.04	-.0020	.0932	.0345
21	5.757	-1.350	0.00	0.00	0.0000	.0932	.0345

FREE STATION 12.000 IS INDEX 16

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-1.050	737.3	737.4	0.0	737.3	655.67	610.56
2	8.246	-1.050	752.6	752.6	0.0	752.6	650.91	603.91
3	8.007	-1.050	772.1	772.2	0.0	772.2	643.97	594.47
4	7.783	-1.050	790.2	790.4	0.0	790.4	635.58	583.70
5	7.573	-1.050	799.0	799.2	0.0	799.2	632.72	579.67
6	7.372	-1.050	804.1	804.5	0.0	804.4	631.03	577.20
7	7.181	-1.050	807.1	807.5	0.0	807.5	630.38	576.21
8	6.998	-1.050	806.2	806.6	0.0	806.6	629.05	575.00
9	6.824	-1.050	806.0	806.3	0.0	806.3	627.49	573.48
10	6.662	-1.050	817.9	818.2	0.0	818.2	627.28	571.65
11	6.513	-1.050	829.2	829.5	0.0	829.4	627.54	570.38
12	6.375	-1.050	833.7	833.9	0.0	833.9	627.95	570.17
13	6.251	-1.050	836.5	836.7	0.0	836.7	628.84	570.67
14	6.138	-1.050	838.9	839.0	0.0	839.0	629.63	571.14
15	6.039	-1.050	840.7	840.8	0.0	840.8	630.32	571.58
16	5.955	-1.050	841.9	842.0	0.0	842.0	630.73	571.83
17	5.884	-1.050	842.7	842.7	0.0	842.7	630.97	571.97
18	5.829	-1.050	843.1	843.1	0.0	843.1	631.16	572.10
19	5.789	-1.050	843.3	843.3	0.0	843.3	631.29	572.21
20	5.765	-1.050	843.4	843.4	0.0	843.4	631.38	572.28
21	5.757	-1.050	843.4	843.5	0.0	843.4	631.40	572.30

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	26.11	20.33	1.7769	1.2640	737.3	.609	.6086
2	8.246	26.44	20.33	1.7996	1.2549	752.6	.625	.6246
3	8.007	26.90	20.32	1.8307	1.2415	772.2	.646	.6459
4	7.783	27.37	20.30	1.8625	1.2253	790.4	.667	.6672
5	7.573	27.57	20.28	1.8764	1.2198	799.2	.677	.6769
6	7.372	27.68	20.26	1.8835	1.2165	804.4	.683	.6828
7	7.181	27.71	20.22	1.8859	1.2153	807.5	.686	.6860
8	6.998	27.66	20.19	1.8824	1.2127	806.6	.686	.6860
9	6.824	27.62	20.15	1.8799	1.2097	806.3	.687	.6866
10	6.662	27.84	20.11	1.8948	1.2093	818.2	.698	.6979
11	6.513	28.04	20.07	1.9085	1.2098	829.4	.708	.7083
12	6.375	28.09	20.03	1.9116	1.2106	833.9	.712	.7122
13	6.251	28.09	19.99	1.9119	1.2123	836.7	.714	.7143
14	6.138	28.10	19.96	1.9122	1.2138	839.0	.716	.7160
15	6.039	28.10	19.94	1.9123	1.2152	840.8	.717	.7172
16	5.955	28.10	19.93	1.9124	1.2160	842.0	.718	.7181
17	5.884	28.10	19.92	1.9125	1.2164	842.7	.719	.7186
18	5.829	28.10	19.92	1.9126	1.2168	843.1	.719	.7189
19	5.789	28.10	19.91	1.9126	1.2171	843.3	.719	.7190
20	5.765	28.10	19.91	1.9127	1.2172	843.4	.719	.7190
21	5.757	28.10	19.91	1.9127	1.2173	843.4	.719	.7190

FREE STATION 12.000 IS INDEX 16

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-1.050	0.00	0.00	0.0000	.0899	.0433
2	8.246	-1.050	0.00	.50	-.0030	.0908	.0433
3	8.007	-1.050	0.00	.89	-.0057	.0922	.0433
4	7.783	-1.050	0.00	1.17	-.0081	.0939	.0433
5	7.573	-1.050	0.00	1.36	-.0105	.0944	.0433
6	7.372	-1.050	0.00	1.51	-.0129	.0947	.0433
7	7.181	-1.050	0.00	1.60	-.0152	.0947	.0433
8	6.998	-1.050	0.00	1.64	-.0174	.0948	.0433
9	6.824	-1.050	0.00	1.63	-.0191	.0948	.0433
10	6.662	-1.050	0.00	1.56	-.0202	.0949	.0433
11	6.513	-1.050	0.00	1.44	-.0205	.0949	.0433
12	6.375	-1.050	0.00	1.29	-.0199	.0948	.0433
13	6.251	-1.050	0.00	1.10	-.0184	.0946	.0433
14	6.138	-1.050	0.00	.90	-.0160	.0943	.0433
15	6.039	-1.050	0.00	.69	-.0130	.0942	.0433
16	5.955	-1.050	0.00	.50	-.0097	.0941	.0433
17	5.884	-1.050	0.00	.33	-.0065	.0940	.0433
18	5.829	-1.050	0.00	.19	-.0038	.0940	.0433
19	5.789	-1.050	0.00	.08	-.0017	.0939	.0433
20	5.765	-1.050	0.00	.02	-.0004	.0939	.0433
21	5.757	-1.050	0.00	0.00	0.0000	.0939	.0433

FREE STATION 13.000 IS INDEX 17

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-.750	760.2	760.2	0.0	760.2	655.67	607.71
2	8.249	-.750	774.6	774.6	0.0	774.6	650.91	601.12
3	8.011	-.750	792.6	792.7	0.0	792.7	643.97	591.80
4	7.789	-.750	809.0	809.1	0.0	809.2	635.58	581.20
5	7.580	-.750	816.2	816.4	0.0	816.4	632.72	577.35
6	7.379	-.750	819.6	819.9	0.0	819.9	631.03	575.18
7	7.188	-.750	820.7	820.9	0.0	821.0	630.38	574.38
8	7.006	-.750	817.6	817.9	0.0	817.9	629.05	573.47
9	6.832	-.750	815.0	815.2	0.0	815.2	627.49	572.27
10	6.669	-.750	824.3	824.5	0.0	824.6	627.28	570.70
11	6.519	-.750	833.1	833.3	0.0	833.3	627.54	569.85
12	6.381	-.750	835.3	835.4	0.0	835.4	627.95	569.96
13	6.256	-.750	836.1	836.2	0.0	836.2	628.84	570.74
14	6.142	-.750	836.8	836.9	0.0	836.9	629.63	571.44
15	6.043	-.750	837.4	837.4	0.0	837.4	630.32	572.05
16	5.957	-.750	837.8	837.8	0.0	837.8	630.73	572.41
17	5.886	-.750	838.0	838.0	0.0	838.0	630.97	572.63
18	5.830	-.750	838.2	838.1	0.0	838.2	631.16	572.79
19	5.789	-.750	838.3	838.3	0.0	838.3	631.29	572.91
20	5.765	-.750	838.4	838.3	0.0	838.4	631.38	572.98
21	5.757	-.750	838.4	838.4	0.0	838.4	631.40	573.01

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	26.11	20.00	1.7769	1.2640	760.2	.629	.6289
2	8.249	26.44	20.00	1.7996	1.2549	774.6	.644	.6443
3	8.011	26.90	20.00	1.8307	1.2415	792.7	.665	.6646
4	7.789	27.37	20.00	1.8625	1.2253	809.2	.685	.6845
5	7.580	27.57	20.00	1.8764	1.2198	816.4	.693	.6929
6	7.379	27.68	20.00	1.8835	1.2165	819.9	.697	.6972
7	7.188	27.71	20.00	1.8859	1.2153	821.0	.699	.6986
8	7.006	27.66	20.00	1.8824	1.2127	817.9	.697	.6965
9	6.832	27.62	20.00	1.8799	1.2097	815.2	.695	.6950
10	6.669	27.84	20.00	1.8948	1.2093	824.6	.704	.7039
11	6.519	28.04	20.00	1.9085	1.2098	833.3	.712	.7119
12	6.381	28.09	20.00	1.9116	1.2106	835.4	.714	.7136
13	6.256	28.09	20.00	1.9119	1.2123	836.2	.714	.7138
14	6.142	28.10	20.00	1.9122	1.2138	836.9	.714	.7140
15	6.043	28.10	20.00	1.9123	1.2152	837.4	.714	.7141
16	5.957	28.10	20.00	1.9124	1.2160	837.8	.714	.7141
17	5.886	28.10	20.00	1.9125	1.2164	838.0	.714	.7142
18	5.830	28.10	20.00	1.9126	1.2168	838.2	.714	.7142
19	5.789	28.10	20.00	1.9126	1.2171	838.3	.714	.7142
20	5.765	28.10	20.00	1.9127	1.2172	838.4	.714	.7143
21	5.757	28.10	20.00	1.9127	1.2173	838.4	.714	.7143

FREE STATION 13.000 IS INDEX 17

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-.750	0.00	0.00	0.0000	.0880	.0513
2	8.249	-.750	0.00	.47	0.0000	.0898	.0513
3	8.011	-.750	0.00	.84	0.0000	.0912	.0513
4	7.789	-.750	0.00	1.10	0.0000	.0929	.0513
5	7.580	-.750	0.00	1.28	0.0000	.0935	.0513
6	7.379	-.750	0.00	1.40	0.0000	.0938	.0513
7	7.188	-.750	0.00	1.47	0.0000	.0940	.0513
8	7.006	-.750	0.00	1.49	0.0000	.0941	.0513
9	6.832	-.750	0.00	1.47	0.0000	.0942	.0513
10	6.669	-.750	0.00	1.39	0.0000	.0946	.0513
11	6.519	-.750	0.00	1.27	0.0000	.0947	.0513
12	6.381	-.750	0.00	1.12	0.0000	.0947	.0513
13	6.256	-.750	0.00	.94	0.0000	.0946	.0513
14	6.142	-.750	0.00	.76	0.0000	.0945	.0513
15	6.043	-.750	0.00	.58	0.0000	.0944	.0513
16	5.957	-.750	0.00	.42	0.0000	.0943	.0513
17	5.886	-.750	0.00	.27	0.0000	.0943	.0513
18	5.830	-.750	0.00	.16	0.0000	.0942	.0513
19	5.789	-.750	0.00	.07	0.0000	.0942	.0513
20	5.765	-.750	0.00	.02	0.0000	.0942	.0513
21	5.757	-.750	0.00	0.00	0.0000	.0942	.0513

870909001 - PBS ROTOR #4 AERODYNAMIC ANALYSIS - THRU BLADE

THE MAXIMUM ROTOR D-FACTOR .468 OCCURED AT STAGE 1 ON STREAMLINE 1.
 THE MAXIMUM VANE D-FACTOR .376 OCCURED AT STAGE 1 ON STREAMLINE 21.

THE MAXIMUM MERIDINAL MACH NO. .872 OCCURED AT STATION 14 ON
 STREAMLINE 21.

PERFORMANCE SUMMARY FOR 870909001:

	SPEC FLOW IN	FLOW RATE IN	CORR FLOW IN	-----S T A G E-----				---CUMULATIVE---		
				P/P	ADIA EFF.	POLY EFF.	VANE TO VANE	P/P	ADIA EFF.	POLY EFF.
REFERENCE		61.22	61.24							
ROTOR 1	43.05	61.22	61.24	1.926	92.0	92.7	92.7	1.926	92.0	92.7
STAGE 1	31.82	61.22	35.17	1.871	87.6	88.6		1.871	87.6	88.6

	ENTROPY RISE	MASS AVERAGED TOTAL PRESS -URE	TOTAL TEMP -ATURE	ROTOR TIP MACH NO.	VANE HUB MACH NO.	RESET ANGLE
REFERENCE		14.69	518.71			
ROTOR 1	1.5	28.30	634.72	.91		
STAGE 1	2.3	27.50	634.74		.79	

CORRECTED RPM 20194.
 FLOW COEF. .260
 OVERALL ADIA. EFF. 87.60
 PT COEF. .667
 WORK COEF. .781
 FLOW 61.22
 RPM 20194.0
 PRESSURE RATIO 1.871
 EFFICIENCY 87.60

APPENDIX C

870909006 - PBS ROTOR #4 AERODYNAMIC ANALYSIS - THRU-BLADE

FREE STATION 1.000 IS INDEX 1

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	13.300	-18.450	181.5	241.0	0.0	241.0	518.71	513.87
2	12.536	-18.450	187.3	241.0	0.0	241.0	518.71	513.87
3	11.790	-18.450	193.1	241.0	0.0	241.0	518.71	513.87
4	11.061	-18.450	198.6	241.0	0.0	241.0	518.71	513.87
5	10.346	-18.450	203.9	241.0	0.0	241.0	518.71	513.87
6	9.646	-18.450	208.9	241.0	0.0	241.0	518.71	513.87
7	8.957	-18.450	213.5	241.0	0.0	241.0	518.71	513.87
8	8.280	-18.450	217.8	241.0	0.0	241.0	518.71	513.87
9	7.612	-18.450	221.7	241.0	0.0	241.0	518.71	513.87
10	6.953	-18.450	225.2	241.0	0.0	241.0	518.71	513.87
11	6.301	-18.450	228.3	241.0	0.0	241.0	518.71	513.87
12	5.655	-18.450	231.0	241.0	0.0	241.0	518.71	513.87
13	5.015	-18.450	233.3	241.0	0.0	241.0	518.71	513.87
14	4.380	-18.450	235.3	241.0	0.0	241.0	518.71	513.87
15	3.748	-18.450	236.9	241.0	0.0	241.0	518.71	513.87
16	3.119	-18.450	238.2	241.0	0.0	241.0	518.71	513.87
17	2.493	-18.450	239.3	241.0	0.0	241.0	518.71	513.87
18	1.868	-18.450	240.1	241.0	0.0	241.0	518.71	513.87
19	1.245	-18.450	240.6	241.0	0.0	241.0	518.71	513.87
20	.622	-18.450	240.9	241.0	0.0	241.0	518.71	513.87
21	.000	-18.450	241.0	241.0	0.0	241.0	518.71	513.87

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	13.300	14.69	14.22	1.0000	1.0000	241.0	.217	.2168
2	12.536	14.69	14.22	1.0000	1.0000	241.0	.217	.2168
3	11.790	14.69	14.22	1.0000	1.0000	241.0	.217	.2168
4	11.061	14.69	14.22	1.0000	1.0000	241.0	.217	.2168
5	10.346	14.69	14.22	1.0000	1.0000	241.0	.217	.2168
6	9.646	14.69	14.22	1.0000	1.0000	241.0	.217	.2168
7	8.957	14.69	14.22	1.0000	1.0000	241.0	.217	.2168
8	8.280	14.69	14.22	1.0000	1.0000	241.0	.217	.2168
9	7.612	14.69	14.22	1.0000	1.0000	241.0	.217	.2168
10	6.953	14.69	14.22	1.0000	1.0000	241.0	.217	.2168
11	6.301	14.69	14.22	1.0000	1.0000	241.0	.217	.2168
12	5.655	14.69	14.22	1.0000	1.0000	241.0	.217	.2168
13	5.015	14.69	14.22	1.0000	1.0000	241.0	.217	.2168
14	4.380	14.69	14.22	1.0000	1.0000	241.0	.217	.2168
15	3.748	14.69	14.22	1.0000	1.0000	241.0	.217	.2168
16	3.119	14.69	14.22	1.0000	1.0000	241.0	.217	.2168
17	2.493	14.69	14.22	1.0000	1.0000	241.0	.217	.2168
18	1.868	14.69	14.22	1.0000	1.0000	241.0	.217	.2168
19	1.245	14.69	14.22	1.0000	1.0000	241.0	.217	.2168
20	.622	14.69	14.22	1.0000	1.0000	241.0	.217	.2168
21	.000	14.69	14.22	1.0000	1.0000	241.0	.217	.2168

FREE STATION 1.000 IS INDEX 1

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	13.300	-18.450	0.00	-41.16	0.0000	.0747	0.0000
2	12.536	-18.450	0.00	-39.00	0.0000	.0747	0.0000
3	11.790	-18.450	0.00	-36.77	0.0000	.0747	0.0000
4	11.061	-18.450	0.00	-34.51	0.0000	.0747	0.0000
5	10.346	-18.450	0.00	-32.22	0.0000	.0747	0.0000
6	9.646	-18.450	0.00	-29.92	0.0000	.0747	0.0000
7	8.957	-18.450	0.00	-27.63	0.0000	.0747	0.0000
8	8.280	-18.450	0.00	-25.35	0.0000	.0747	0.0000
9	7.612	-18.450	0.00	-23.10	0.0000	.0747	0.0000
10	6.953	-18.450	0.00	-20.89	0.0000	.0747	0.0000
11	6.301	-18.450	0.00	-18.72	0.0000	.0747	0.0000
12	5.655	-18.450	0.00	-16.61	0.0000	.0747	0.0000
13	5.015	-18.450	0.00	-14.54	0.0000	.0747	0.0000
14	4.380	-18.450	0.00	-12.54	0.0000	.0747	0.0000
15	3.748	-18.450	0.00	-10.60	0.0000	.0747	0.0000
16	3.119	-18.450	0.00	-8.72	0.0000	.0747	0.0000
17	2.493	-18.450	0.00	-6.90	0.0000	.0747	0.0000
18	1.868	-18.450	0.00	-5.13	0.0000	.0747	0.0000
19	1.245	-18.450	0.00	-3.40	0.0000	.0747	0.0000
20	.622	-18.450	0.00	-1.70	0.0000	.0747	0.0000
21	.000	-18.450	0.00	0.00	0.0000	.0747	0.0000

FREE STATION 2.000 IS INDEX 2

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	9.480	-14.081	453.7	540.8	0.0	540.8	518.71	494.34
2	9.030	-14.120	456.9	530.5	0.0	530.5	518.71	495.25
3	8.583	-14.158	456.9	518.8	0.0	518.8	518.71	496.28
4	8.137	-14.197	454.7	506.3	0.0	506.3	518.71	497.34
5	7.690	-14.235	451.0	493.7	0.0	493.7	518.71	498.40
6	7.242	-14.274	446.1	481.1	0.0	481.1	518.71	499.42
7	6.792	-14.313	440.5	468.8	0.0	468.8	518.71	500.39
8	6.338	-14.352	434.3	456.9	0.0	456.9	518.71	501.31
9	5.881	-14.392	427.7	445.5	0.0	445.5	518.71	502.17
10	5.419	-14.432	420.9	434.6	0.0	434.6	518.71	502.97
11	4.953	-14.472	413.9	424.3	0.0	424.3	518.71	503.71
12	4.481	-14.513	406.8	414.5	0.0	414.5	518.71	504.39
13	4.005	-14.554	399.8	405.3	0.0	405.3	518.71	505.02
14	3.522	-14.596	393.0	396.7	0.0	396.7	518.71	505.60
15	3.034	-14.638	386.3	388.7	0.0	388.7	518.71	506.12
16	2.541	-14.680	380.0	381.4	0.0	381.4	518.71	506.59
17	2.042	-14.724	374.1	374.8	0.0	374.8	518.71	507.00
18	1.537	-14.767	368.9	369.2	0.0	369.2	518.71	507.35
19	1.028	-14.811	364.5	364.6	0.0	364.6	518.71	507.63
20	.515	-14.855	361.5	361.5	0.0	361.5	518.71	507.82
21	.000	-14.900	360.3	360.3	0.0	360.3	518.71	507.89

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	9.480	14.69	12.42	1.0000	1.0000	540.8	.496	.4960
2	9.030	14.69	12.50	1.0000	1.0000	530.5	.486	.4862
3	8.583	14.69	12.59	1.0000	1.0000	518.8	.475	.4749
4	8.137	14.69	12.69	1.0000	1.0000	506.3	.463	.4630
5	7.690	14.69	12.78	1.0000	1.0000	493.7	.451	.4510
6	7.242	14.69	12.87	1.0000	1.0000	481.1	.439	.4390
7	6.792	14.69	12.96	1.0000	1.0000	468.8	.427	.4274
8	6.338	14.69	13.04	1.0000	1.0000	456.9	.416	.4162
9	5.881	14.69	13.12	1.0000	1.0000	445.5	.405	.4054
10	5.419	14.69	13.19	1.0000	1.0000	434.6	.395	.3952
11	4.953	14.69	13.26	1.0000	1.0000	424.3	.386	.3855
12	4.481	14.69	13.32	1.0000	1.0000	414.5	.376	.3764
13	4.005	14.69	13.38	1.0000	1.0000	405.3	.368	.3678
14	3.522	14.69	13.44	1.0000	1.0000	396.7	.360	.3598
15	3.034	14.69	13.48	1.0000	1.0000	388.7	.352	.3524
16	2.541	14.69	13.53	1.0000	1.0000	381.4	.346	.3456
17	2.042	14.69	13.57	1.0000	1.0000	374.8	.340	.3395
18	1.537	14.69	13.60	1.0000	1.0000	369.2	.334	.3343
19	1.028	14.69	13.63	1.0000	1.0000	364.6	.330	.3301
20	.515	14.69	13.64	1.0000	1.0000	361.5	.327	.3272
21	.000	14.69	13.65	1.0000	1.0000	360.3	.326	.3260

FREE STATION 2.000 IS INDEX 2

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	9.480	-14.081	0.00	-32.97	.0952	.0678	0.0000
2	9.030	-14.120	0.00	-30.55	.0982	.0681	0.0000
3	8.583	-14.158	0.00	-28.28	.0984	.0685	0.0000
4	8.137	-14.197	0.00	-26.10	.0967	.0688	0.0000
5	7.690	-14.235	0.00	-24.00	.0936	.0692	0.0000
6	7.242	-14.274	0.00	-21.97	.0895	.0696	0.0000
7	6.792	-14.313	0.00	-20.01	.0847	.0699	0.0000
8	6.338	-14.352	0.00	-18.10	.0796	.0702	0.0000
9	5.881	-14.392	0.00	-16.25	.0742	.0705	0.0000
10	5.419	-14.432	0.00	-14.45	.0687	.0708	0.0000
11	4.953	-14.472	0.00	-12.71	.0632	.0711	0.0000
12	4.481	-14.513	0.00	-11.03	.0578	.0713	0.0000
13	4.005	-14.554	0.00	-9.41	.0524	.0715	0.0000
14	3.522	-14.596	0.00	-7.85	.0471	.0717	0.0000
15	3.034	-14.638	0.00	-6.37	.0419	.0719	0.0000
16	2.541	-14.680	0.00	-4.96	.0366	.0721	0.0000
17	2.042	-14.724	0.00	-3.65	.0312	.0722	0.0000
18	1.537	-14.767	0.00	-2.45	.0253	.0723	0.0000
19	1.028	-14.811	0.00	-1.40	.0186	.0724	0.0000
20	.515	-14.855	0.00	-.59	.0102	.0725	0.0000
21	.000	-14.900	0.00	0.00	0.0000	.0725	0.0000

FREE STATION 3.000 IS INDEX 3

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.960	-12.851	583.3	614.4	0.0	614.4	518.71	487.25
2	8.519	-12.742	580.0	603.8	0.0	603.8	518.71	488.32
3	8.083	-12.635	575.8	593.9	0.0	593.9	518.71	489.31
4	7.649	-12.529	570.7	584.5	0.0	584.5	518.71	490.24
5	7.219	-12.423	564.9	575.2	0.0	575.2	518.71	491.13
6	6.790	-12.318	558.5	566.0	0.0	565.9	518.71	492.01
7	6.362	-12.213	551.3	556.5	0.0	556.5	518.71	492.90
8	5.934	-12.108	543.3	546.7	0.0	546.7	518.71	493.80
9	5.507	-12.003	534.5	536.5	0.0	536.5	518.71	494.72
10	5.080	-11.898	524.5	525.5	0.0	525.5	518.71	495.69
11	4.652	-11.793	513.4	513.8	0.0	513.8	518.71	496.71
12	4.223	-11.687	501.0	501.0	0.0	501.0	518.71	497.79
13	3.791	-11.581	486.9	486.9	0.0	486.9	518.71	498.95
14	3.356	-11.474	470.8	471.3	0.0	471.4	518.71	500.19
15	2.917	-11.366	452.5	453.9	0.0	453.9	518.71	501.54
16	2.472	-11.257	431.0	433.9	0.0	433.9	518.71	503.02
17	2.018	-11.146	405.4	410.6	0.0	410.6	518.71	504.66
18	1.553	-11.032	373.8	382.8	0.0	382.8	518.71	506.50
19	1.070	-10.913	332.6	348.5	0.0	348.5	518.71	508.59
20	.553	-10.786	276.0	305.3	0.0	305.3	518.71	510.94
21	.000	-10.650	202.9	256.9	0.0	256.9	518.71	513.21

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.960	14.69	11.81	1.0000	1.0000	614.4	.568	.5676
2	8.519	14.69	11.90	1.0000	1.0000	603.8	.557	.5573
3	8.083	14.69	11.98	1.0000	1.0000	593.9	.548	.5476
4	7.649	14.69	12.06	1.0000	1.0000	584.5	.538	.5384
5	7.219	14.69	12.14	1.0000	1.0000	575.2	.529	.5293
6	6.790	14.69	12.22	1.0000	1.0000	565.9	.520	.5203
7	6.362	14.69	12.29	1.0000	1.0000	556.5	.511	.5112
8	5.934	14.69	12.37	1.0000	1.0000	546.7	.502	.5018
9	5.507	14.69	12.45	1.0000	1.0000	536.5	.492	.4919
10	5.080	14.69	12.54	1.0000	1.0000	525.5	.481	.4814
11	4.652	14.69	12.63	1.0000	1.0000	513.8	.470	.4701
12	4.223	14.69	12.73	1.0000	1.0000	501.0	.458	.4579
13	3.791	14.69	12.83	1.0000	1.0000	486.9	.445	.4446
14	3.356	14.69	12.94	1.0000	1.0000	471.4	.430	.4298
15	2.917	14.69	13.06	1.0000	1.0000	453.9	.413	.4133
16	2.472	14.69	13.20	1.0000	1.0000	433.9	.395	.3945
17	2.018	14.69	13.35	1.0000	1.0000	410.6	.373	.3728
18	1.553	14.69	13.52	1.0000	1.0000	382.8	.347	.3469
19	1.070	14.69	13.72	1.0000	1.0000	348.5	.315	.3151
20	.553	14.69	13.94	1.0000	1.0000	305.3	.275	.2754
21	.000	14.69	14.16	1.0000	1.0000	256.9	.231	.2313

FREE STATION 3.000 IS INDEX 3

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.960	-12.851	0.00	-18.32	.1067	.0654	0.0000
2	8.519	-12.742	0.00	-16.14	.0947	.0658	0.0000
3	8.083	-12.635	0.00	-14.22	.0864	.0661	0.0000
4	7.649	-12.529	0.00	-12.48	.0805	.0664	0.0000
5	7.219	-12.423	0.00	-10.86	.0764	.0667	0.0000
6	6.790	-12.318	0.00	-9.33	.0736	.0670	0.0000
7	6.362	-12.213	0.00	-7.85	.0718	.0673	0.0000
8	5.934	-12.108	0.00	-6.40	.0711	.0676	0.0000
9	5.507	-12.003	0.00	-4.96	.0712	.0679	0.0000
10	5.080	-11.898	0.00	-3.52	.0723	.0683	0.0000
11	4.652	-11.793	0.00	-2.06	.0745	.0686	0.0000
12	4.223	-11.687	0.00	-.56	.0778	.0690	0.0000
13	3.791	-11.581	0.00	1.01	.0827	.0694	0.0000
14	3.356	-11.474	0.00	2.67	.0897	.0698	0.0000
15	2.917	-11.366	0.00	4.49	.0996	.0703	0.0000
16	2.472	-11.257	0.00	6.58	.1137	.0708	0.0000
17	2.018	-11.146	0.00	9.12	.1342	.0714	0.0000
18	1.553	-11.032	0.00	12.47	.1647	.0720	0.0000
19	1.070	-10.913	0.00	17.38	.2098	.0728	0.0000
20	.553	-10.786	0.00	25.29	.2685	.0736	0.0000
21	.000	-10.650	0.00	37.85	.2963	.0745	0.0000

FREE STATION 4.000 IS INDEX 4

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.550	-11.138	719.4	725.5	0.0	725.5	518.71	474.84
2	8.170	-11.063	700.0	704.2	0.0	704.2	518.71	477.38
3	7.789	-10.988	682.3	685.1	0.0	685.1	518.71	479.58
4	7.407	-10.913	666.1	667.8	0.0	667.8	518.71	481.54
5	7.023	-10.838	650.9	651.7	0.0	651.7	518.71	483.31
6	6.639	-10.762	636.3	636.5	0.0	636.5	518.71	484.94
7	6.254	-10.686	621.8	621.8	0.0	621.8	518.71	486.49
8	5.868	-10.610	607.1	607.2	0.0	607.1	518.71	487.99
9	5.482	-10.535	591.8	592.3	0.0	592.3	518.71	489.47
10	5.096	-10.459	575.6	577.0	0.0	577.0	518.71	490.96
11	4.709	-10.382	558.2	561.0	0.0	561.0	518.71	492.48
12	4.322	-10.306	539.6	544.3	0.0	544.3	518.71	494.02
13	3.935	-10.230	519.5	526.7	0.0	526.7	518.71	495.59
14	3.549	-10.154	497.7	508.4	0.0	508.4	518.71	497.17
15	3.165	-10.079	474.1	489.4	0.0	489.4	518.71	498.75
16	2.786	-10.004	448.2	470.0	0.0	470.0	518.71	500.30
17	2.416	-9.931	419.5	450.6	0.0	450.6	518.71	501.79
18	2.066	-9.862	387.1	432.5	0.0	432.5	518.71	503.12
19	1.754	-9.801	350.5	418.1	0.0	418.1	518.71	504.14
20	1.518	-9.755	308.7	411.1	0.0	411.1	518.71	504.63
21	1.421	-9.736	259.8	410.9	0.0	411.0	518.71	504.63

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.550	14.69	10.79	1.0000	1.0000	725.5	.679	.6789
2	8.170	14.69	10.99	1.0000	1.0000	704.2	.657	.6573
3	7.789	14.69	11.17	1.0000	1.0000	685.1	.638	.6380
4	7.407	14.69	11.33	1.0000	1.0000	667.8	.621	.6206
5	7.023	14.69	11.48	1.0000	1.0000	651.7	.605	.6046
6	6.639	14.69	11.61	1.0000	1.0000	636.5	.589	.5895
7	6.254	14.69	11.74	1.0000	1.0000	621.8	.575	.5749
8	5.868	14.69	11.87	1.0000	1.0000	607.1	.561	.5605
9	5.482	14.69	12.00	1.0000	1.0000	592.3	.546	.5460
10	5.096	14.69	12.13	1.0000	1.0000	577.0	.531	.5311
11	4.709	14.69	12.26	1.0000	1.0000	561.0	.516	.5156
12	4.322	14.69	12.39	1.0000	1.0000	544.3	.499	.4994
13	3.935	14.69	12.53	1.0000	1.0000	526.7	.483	.4825
14	3.549	14.69	12.67	1.0000	1.0000	508.4	.465	.4650
15	3.165	14.69	12.81	1.0000	1.0000	489.4	.447	.4469
16	2.786	14.69	12.95	1.0000	1.0000	470.0	.429	.4285
17	2.416	14.69	13.09	1.0000	1.0000	450.6	.410	.4103
18	2.066	14.69	13.21	1.0000	1.0000	432.5	.393	.3932
19	1.754	14.69	13.30	1.0000	1.0000	418.1	.380	.3798
20	1.518	14.69	13.35	1.0000	1.0000	411.1	.373	.3732
21	1.421	14.69	13.35	1.0000	1.0000	411.0	.373	.3731

FREE STATION 4.000 IS INDEX 4

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.550	-11.138	0.00	-7.39	.1018	.0613	0.0000
2	8.170	-11.063	0.00	-6.29	.0941	.0622	0.0000
3	7.789	-10.988	0.00	-5.19	.0878	.0629	0.0000
4	7.407	-10.913	0.00	-4.06	.0828	.0635	0.0000
5	7.023	-10.838	0.00	-2.89	.0790	.0641	0.0000
6	6.639	-10.762	0.00	-1.67	.0765	.0646	0.0000
7	6.254	-10.686	0.00	-.38	.0752	.0652	0.0000
8	5.868	-10.610	0.00	.99	.0751	.0657	0.0000
9	5.482	-10.535	0.00	2.45	.0761	.0662	0.0000
10	5.096	-10.459	0.00	4.02	.0781	.0667	0.0000
11	4.709	-10.382	0.00	5.69	.0809	.0672	0.0000
12	4.322	-10.306	0.00	7.51	.0843	.0677	0.0000
13	3.935	-10.230	0.00	9.52	.0884	.0682	0.0000
14	3.549	-10.154	0.00	11.77	.0928	.0688	0.0000
15	3.165	-10.079	0.00	14.37	.0971	.0693	0.0000
16	2.786	-10.004	0.00	17.51	.1005	.0699	0.0000
17	2.416	-9.931	0.00	21.43	.1000	.0704	0.0000
18	2.066	-9.862	0.00	26.48	.0879	.0709	0.0000
19	1.754	-9.801	0.00	33.05	.0457	.0712	0.0000
20	1.518	-9.755	0.00	41.32	-.0570	.0714	0.0000
21	1.421	-9.736	0.00	50.79	-.2152	.0714	0.0000

FREE STATION 5.000 IS INDEX 5

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-8.650	752.6	752.7	0.0	752.7	518.71	471.48
2	8.140	-8.676	748.6	748.6	0.0	748.6	518.71	471.99
3	7.781	-8.701	743.7	743.7	0.0	743.7	518.71	472.61
4	7.425	-8.726	737.1	737.3	0.0	737.3	518.71	473.40
5	7.070	-8.751	728.4	728.9	0.0	728.9	518.71	474.43
6	6.715	-8.776	717.0	718.2	0.0	718.2	518.71	475.72
7	6.362	-8.800	702.8	705.0	0.0	705.0	518.71	477.28
8	6.009	-8.825	685.4	689.2	0.0	689.2	518.71	479.12
9	5.656	-8.850	665.0	670.9	0.0	670.9	518.71	481.20
10	5.301	-8.875	641.6	650.2	0.0	650.2	518.71	483.48
11	4.945	-8.900	615.8	627.7	0.0	627.7	518.71	485.87
12	4.587	-8.925	588.6	604.3	0.0	604.3	518.71	488.27
13	4.227	-8.950	560.7	580.8	0.0	580.8	518.71	490.59
14	3.868	-8.976	532.6	557.9	0.0	557.9	518.71	492.76
15	3.510	-9.001	504.9	536.4	0.0	536.4	518.71	494.73
16	3.158	-9.025	477.8	516.9	0.0	516.9	518.71	496.44
17	2.820	-9.049	451.5	500.4	0.0	500.5	518.71	497.84
18	2.507	-9.071	425.8	487.7	0.0	487.7	518.71	498.89
19	2.241	-9.090	401.1	479.3	0.0	479.3	518.71	499.56
20	2.054	-9.103	380.3	475.3	0.0	475.3	518.71	499.88
21	1.984	-9.108	370.7	474.3	0.0	474.3	518.71	499.96

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	14.69	10.53	1.0000	1.0000	752.7	.707	.7069
2	8.140	14.69	10.57	1.0000	1.0000	748.6	.703	.7027
3	7.781	14.69	10.61	1.0000	1.0000	743.7	.698	.6977
4	7.425	14.69	10.68	1.0000	1.0000	737.3	.691	.6911
5	7.070	14.69	10.76	1.0000	1.0000	728.9	.682	.6824
6	6.715	14.69	10.86	1.0000	1.0000	718.2	.672	.6715
7	6.362	14.69	10.99	1.0000	1.0000	705.0	.658	.6581
8	6.009	14.69	11.13	1.0000	1.0000	689.2	.642	.6421
9	5.656	14.69	11.30	1.0000	1.0000	670.9	.624	.6237
10	5.301	14.69	11.49	1.0000	1.0000	650.2	.603	.6030
11	4.945	14.69	11.69	1.0000	1.0000	627.7	.581	.5808
12	4.587	14.69	11.89	1.0000	1.0000	604.3	.558	.5577
13	4.227	14.69	12.09	1.0000	1.0000	580.8	.535	.5349
14	3.868	14.69	12.28	1.0000	1.0000	557.9	.513	.5126
15	3.510	14.69	12.45	1.0000	1.0000	536.4	.492	.4918
16	3.158	14.69	12.60	1.0000	1.0000	516.9	.473	.4732
17	2.820	14.69	12.73	1.0000	1.0000	500.5	.457	.4574
18	2.507	14.69	12.82	1.0000	1.0000	487.7	.445	.4453
19	2.241	14.69	12.88	1.0000	1.0000	479.3	.437	.4374
20	2.054	14.69	12.91	1.0000	1.0000	475.3	.434	.4335
21	1.984	14.69	12.92	1.0000	1.0000	474.3	.433	.4326

FREE STATION 5.000 IS INDEX 5

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-8.650	0.00	-.58	.0120	.0603	0.0000
2	8.140	-8.676	0.00	-.18	.0121	.0604	0.0000
3	7.781	-8.701	0.00	.42	.0140	.0606	0.0000
4	7.425	-8.726	0.00	1.21	.0176	.0609	0.0000
5	7.070	-8.751	0.00	2.18	.0228	.0612	0.0000
6	6.715	-8.776	0.00	3.31	.0290	.0616	0.0000
7	6.362	-8.800	0.00	4.60	.0360	.0621	0.0000
8	6.009	-8.825	0.00	6.03	.0438	.0627	0.0000
9	5.656	-8.850	0.00	7.62	.0523	.0634	0.0000
10	5.301	-8.875	0.00	9.33	.0608	.0642	0.0000
11	4.945	-8.900	0.00	11.16	.0681	.0649	0.0000
12	4.587	-8.925	0.00	13.09	.0732	.0658	0.0000
13	4.227	-8.950	0.00	15.13	.0755	.0665	0.0000
14	3.868	-8.976	0.00	17.33	.0745	.0673	0.0000
15	3.510	-9.001	0.00	19.74	.0689	.0679	0.0000
16	3.158	-9.025	0.00	22.44	.0565	.0685	0.0000
17	2.820	-9.049	0.00	25.56	.0346	.0690	0.0000
18	2.507	-9.071	0.00	29.19	.0000	.0694	0.0000
19	2.241	-9.090	0.00	33.19	-.0444	.0696	0.0000
20	2.054	-9.103	0.00	36.85	-.0916	.0697	0.0000
21	1.984	-9.108	0.00	38.60	-.1171	.0697	0.0000

FREE STATION 6.000 IS INDEX 6

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-7.801	786.1	785.9	0.0	785.6	518.71	467.26
2	8.145	-7.876	803.1	802.9	0.0	802.6	518.71	465.01
3	7.795	-7.950	819.3	819.3	0.0	819.0	518.71	462.80
4	7.449	-8.016	828.8	829.2	0.0	828.9	518.71	461.43
5	7.106	-8.074	829.0	830.4	0.0	830.2	518.71	461.26
6	6.766	-8.126	820.2	823.4	0.0	823.2	518.71	462.22
7	6.427	-8.172	804.3	810.0	0.0	809.8	518.71	464.04
8	6.090	-8.213	782.9	791.7	0.0	791.6	518.71	466.47
9	5.755	-8.246	756.9	769.7	0.0	769.7	518.71	469.33
10	5.423	-8.263	726.5	744.4	0.0	744.4	518.71	472.52
11	5.096	-8.260	692.7	716.4	0.0	716.5	518.71	475.91
12	4.774	-8.241	657.2	687.3	0.0	687.5	518.71	479.31
13	4.457	-8.216	621.9	658.5	0.0	658.7	518.71	482.54
14	4.145	-8.193	587.9	631.0	0.0	631.2	518.71	485.50
15	3.839	-8.174	536.6	606.1	0.0	606.3	518.71	488.07
16	3.544	-8.159	529.3	585.4	0.0	585.5	518.71	490.14
17	3.270	-8.147	508.1	570.7	0.0	570.8	518.71	491.56
18	3.030	-8.136	493.6	563.3	0.0	563.4	518.71	492.26
19	2.840	-8.128	484.9	562.5	0.0	562.5	518.71	492.34
20	2.718	-8.122	480.4	564.8	0.0	564.8	518.71	492.12
21	2.675	-8.120	479.0	566.3	0.0	566.3	518.71	491.98

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	14.69	10.20	1.0000	1.0000	1691.9	.741	1.5963
2	8.145	14.69	10.03	1.0000	1.0000	1645.0	.759	1.5558
3	7.795	14.69	9.86	1.0000	1.0000	1599.7	.776	1.5165
4	7.449	14.69	9.76	1.0000	1.0000	1552.9	.787	1.4744
5	7.106	14.69	9.75	1.0000	1.0000	1502.8	.788	1.4271
6	6.766	14.69	9.82	1.0000	1.0000	1449.2	.781	1.3747
7	6.427	14.69	9.96	1.0000	1.0000	1392.7	.767	1.3185
8	6.090	14.69	10.14	1.0000	1.0000	1333.9	.748	1.2595
9	5.755	14.69	10.36	1.0000	1.0000	1273.4	.725	1.1987
10	5.423	14.69	10.61	1.0000	1.0000	1211.5	.698	1.1367
11	5.096	14.69	10.88	1.0000	1.0000	1148.9	.670	1.0741
12	4.774	14.69	11.15	1.0000	1.0000	1086.5	.640	1.0121
13	4.457	14.69	11.41	1.0000	1.0000	1025.1	.612	.9517
14	4.145	14.69	11.66	1.0000	1.0000	965.4	.584	.8935
15	3.839	14.69	11.88	1.0000	1.0000	908.4	.560	.8386
16	3.544	14.69	12.05	1.0000	1.0000	856.1	.539	.7887
17	3.270	14.69	12.18	1.0000	1.0000	811.2	.525	.7462
18	3.030	14.69	12.24	1.0000	1.0000	776.3	.518	.7136
19	2.840	14.69	12.25	1.0000	1.0000	753.0	.517	.6921
20	2.718	14.69	12.23	1.0000	1.0000	740.6	.519	.6809
21	2.675	14.69	12.21	1.0000	1.0000	736.9	.521	.6776

FREE STATION 6.000 IS INDEX 6

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-7.801	0.00	0.00	0.0000	.0589	.0147
2	8.145	-7.876	0.00	.08	-.0166	.0582	.0153
3	7.795	-7.950	0.00	.80	-.0129	.0575	.0160
4	7.449	-8.016	0.00	2.01	.0037	.0571	.0166
5	7.106	-8.074	0.00	3.51	.0243	.0571	.0173
6	6.766	-8.126	0.00	5.15	.0423	.0574	.0180
7	6.427	-8.172	0.00	6.86	.0550	.0579	.0186
8	6.090	-8.213	0.00	8.64	.0623	.0587	.0190
9	5.755	-8.246	0.00	10.53	.0673	.0596	.0194
10	5.423	-8.263	0.00	12.61	.0748	.0606	.0204
11	5.096	-8.260	0.00	14.83	.0848	.0617	.0219
12	4.774	-8.241	0.00	17.06	.0921	.0628	.0244
13	4.457	-8.216	0.00	19.22	.0936	.0638	.0273
14	4.145	-8.193	0.00	21.32	.0888	.0648	.0307
15	3.839	-8.174	0.00	23.35	.0775	.0657	.0373
16	3.544	-8.159	0.00	25.30	.0578	.0664	.0455
17	3.270	-8.147	0.00	27.12	.0259	.0669	.0569
18	3.030	-8.136	0.00	28.85	-.0164	.0671	.0685
19	2.840	-8.128	0.00	30.47	-.0623	.0671	.0792
20	2.718	-8.122	0.00	31.75	-.1001	.0671	.0869
21	2.675	-8.120	0.00	32.27	-.1152	.0670	.0898

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED
1	-55.16	7.32	1498.3
2	-53.85	8.10	1435.7
3	-52.95	7.13	1374.0
4	-51.68	5.41	1313.0
5	-50.36	3.59	1252.6
6	-49.53	2.56	1192.6
7	-48.74	1.65	1132.9
8	-47.96	.67	1073.5
9	-47.26	-.68	1014.4
10	-46.33	-2.01	955.9
11	-45.29	-3.17	898.2
12	-44.34	-3.20	841.5
13	-43.00	-2.94	785.7
14	-41.41	-2.38	730.6
15	-40.01	-1.32	676.7
16	-38.66	-.11	624.8
17	-36.80	1.55	576.5
18	-35.19	3.01	534.1
19	-33.59	4.18	500.7
20	-32.56	4.94	479.0
21	-32.20	5.20	471.5

STATION---- 6.200 IS INSIDE OF A ROTOR WITH INDEX 7

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-7.384	661.4	661.3	143.6	676.0	554.53	516.48
2	8.143	-7.421	687.2	687.1	155.3	703.9	555.83	514.57
3	7.800	-7.460	714.4	714.3	164.1	732.7	556.28	511.57
4	7.468	-7.497	734.4	734.8	170.3	754.4	556.05	508.66
5	7.143	-7.529	745.2	747.0	177.8	768.2	555.99	506.85
6	6.824	-7.559	749.2	753.1	186.3	776.2	556.03	505.84
7	6.508	-7.586	748.7	755.6	197.2	781.4	556.38	505.53
8	6.193	-7.611	747.0	757.6	209.3	786.4	556.76	505.26
9	5.883	-7.630	744.8	760.0	223.6	792.6	557.33	505.01
10	5.577	-7.643	740.2	761.4	237.8	797.9	557.64	504.62
11	5.275	-7.649	719.5	747.7	235.0	783.8	555.10	503.93
12	4.974	-7.653	688.5	724.1	219.9	756.8	550.82	503.12
13	4.673	-7.654	656.7	699.8	206.0	729.5	546.97	502.64
14	4.374	-7.656	627.2	678.0	193.8	705.1	543.60	502.19
15	4.079	-7.658	599.8	657.8	183.8	682.9	540.72	501.86
16	3.792	-7.663	575.1	639.2	174.9	662.7	538.18	501.59
17	3.521	-7.669	554.2	623.0	166.4	644.9	535.92	501.27
18	3.280	-7.676	537.9	609.7	158.3	630.0	533.95	500.89
19	3.087	-7.682	527.5	600.8	151.0	619.6	532.40	500.42
20	2.963	-7.685	522.5	596.4	145.8	614.1	531.39	499.97
21	2.919	-7.686	521.2	595.2	143.9	612.5	531.04	499.75

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	17.64	13.76	1.2007	1.0691	1507.5	.607	1.3528
2	8.143	17.92	13.68	1.2195	1.0716	1452.9	.633	1.3062
3	7.800	18.21	13.58	1.2393	1.0724	1405.8	.661	1.2676
4	7.468	18.43	13.50	1.2546	1.0720	1361.3	.682	1.2310
5	7.143	18.59	13.45	1.2650	1.0719	1314.3	.696	1.1906
6	6.824	18.69	13.43	1.2719	1.0719	1265.2	.704	1.1472
7	6.508	18.75	13.41	1.2764	1.0726	1213.8	.709	1.1010
8	6.193	18.82	13.41	1.2810	1.0734	1163.0	.713	1.0552
9	5.883	18.91	13.40	1.2871	1.0745	1113.2	.719	1.0102
10	5.577	18.98	13.39	1.2920	1.0751	1065.4	.724	.9673
11	5.275	18.73	13.36	1.2749	1.0702	1020.7	.712	.9273
12	4.974	18.26	13.30	1.2429	1.0619	977.7	.688	.8889
13	4.673	17.79	13.24	1.2110	1.0545	933.5	.664	.8492
14	4.374	17.39	13.18	1.1837	1.0480	890.3	.642	.8103
15	4.079	17.06	13.14	1.1608	1.0424	848.0	.622	.7720
16	3.792	16.77	13.11	1.1411	1.0375	807.6	.603	.7354
17	3.521	16.51	13.07	1.1239	1.0332	771.0	.587	.7023
18	3.280	16.30	13.03	1.1091	1.0294	740.3	.574	.6746
19	3.087	16.13	12.99	1.0976	1.0264	718.0	.565	.6546
20	2.963	16.02	12.94	1.0901	1.0245	705.3	.560	.6433
21	2.919	15.98	12.93	1.0875	1.0238	701.3	.559	.6397

STATION----- 6.200 IS INSIDE OF A ROTOR WITH INDEX 7

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-7.384	12.25	0.00	0.0000	.0719	.0590
2	8.143	-7.421	12.74	-.16	.0040	.0718	.0620
3	7.800	-7.460	12.94	.64	.0046	.0717	.0664
4	7.468	-7.497	13.05	2.15	.0049	.0716	.0722
5	7.143	-7.529	13.39	3.99	.0039	.0716	.0805
6	6.824	-7.559	13.89	5.92	.0017	.0716	.0908
7	6.508	-7.586	14.63	7.79	-.0017	.0716	.1023
8	6.193	-7.611	15.44	9.63	-.0060	.0716	.1137
9	5.883	-7.630	16.40	11.52	-.0116	.0716	.1245
10	5.577	-7.643	17.35	13.58	-.0210	.0716	.1346
11	5.275	-7.649	17.45	15.80	-.0324	.0715	.1428
12	4.974	-7.653	16.89	18.06	-.0408	.0714	.1504
13	4.673	-7.654	16.40	20.25	-.0446	.0711	.1530
14	4.374	-7.656	15.96	22.33	-.0446	.0709	.1593
15	4.079	-7.658	15.61	24.24	-.0425	.0707	.1696
16	3.792	-7.663	15.30	25.89	-.0395	.0705	.1875
17	3.521	-7.669	14.96	27.20	-.0312	.0704	.2087
18	3.280	-7.676	14.55	28.11	-.0236	.0702	.2194
19	3.087	-7.682	14.11	28.63	-.0242	.0700	.2292
20	2.963	-7.685	13.74	28.85	-.0301	.0699	.2356
21	2.919	-7.686	13.59	28.91	-.0339	.0698	.2378

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED	LOSS COEF.
1	-59.78	-1.50	1498.3	.0648
2	-58.31	.34	1435.4	.0572
3	-56.72	.42	1374.9	.0394
4	-55.16	-.45	1316.3	.0180
5	-53.66	-2.41	1259.2	.0013
6	-52.03	-3.38	1202.9	-.0121
7	-50.30	-3.90	1147.1	-.0205
8	-48.39	-3.90	1091.7	-.0296
9	-46.32	-3.74	1037.0	-.0395
10	-44.07	-3.46	983.1	-.0522
11	-41.89	-2.74	929.9	-.0673
12	-39.77	-1.99	876.9	-.0802
13	-38.06	-1.43	823.8	-.0856
14	-36.46	-1.02	771.0	-.0903
15	-34.91	-.76	719.0	-.0950
16	-33.11	.67	668.4	-.0988
17	-31.52	2.29	620.6	-.1005
18	-30.53	3.89	578.1	-.0995
19	-29.87	5.16	544.2	-.0971
20	-29.47	5.72	522.2	-.0947
21	-29.32	5.81	514.6	-.0937

STATION---- 6.400 IS INSIDE OF A ROTOR WITH INDEX 8

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-6.990	614.5	614.1	274.8	672.4	587.25	549.63
2	8.142	-6.988	642.8	642.5	295.6	707.0	589.34	547.76
3	7.805	-6.993	677.2	677.0	310.5	744.8	589.82	543.67
4	7.487	-7.001	702.8	703.0	320.5	772.9	589.11	539.41
5	7.180	-7.009	715.9	717.4	332.3	791.0	588.71	536.65
6	6.881	-7.016	720.9	724.4	345.8	803.1	588.52	534.85
7	6.584	-7.023	721.4	727.5	363.7	813.8	588.98	533.88
8	6.291	-7.032	723.7	733.0	383.4	827.6	589.48	532.48
9	6.001	-7.037	729.4	742.5	406.8	847.0	590.34	530.64
10	5.720	-7.036	737.8	755.7	432.6	871.1	591.30	528.16
11	5.443	-7.034	728.8	752.1	433.2	868.2	587.88	525.15
12	5.167	-7.037	706.1	735.6	414.4	844.5	581.53	522.17
13	4.887	-7.050	677.4	713.7	395.3	816.0	575.40	519.97
14	4.604	-7.073	649.1	692.7	375.4	788.0	569.44	517.75
15	4.323	-7.098	622.4	673.7	357.3	762.7	564.04	515.61
16	4.046	-7.124	597.3	656.3	341.4	739.8	559.26	513.68
17	3.782	-7.150	573.2	639.4	326.9	718.2	555.00	512.05
18	3.544	-7.173	551.5	623.3	313.4	697.8	551.31	510.76
19	3.350	-7.193	533.8	608.9	301.5	679.7	548.37	509.89
20	3.222	-7.206	522.2	598.6	293.1	666.6	546.43	509.42
21	3.176	-7.211	518.2	594.7	290.0	661.8	545.75	509.27

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	20.64	16.37	1.4047	1.1321	1369.0	.585	1.1909
2	8.142	21.20	16.41	1.4427	1.1362	1308.3	.616	1.1400
3	7.805	21.79	16.39	1.4831	1.1371	1262.2	.651	1.1040
4	7.487	22.26	16.35	1.5147	1.1357	1221.8	.679	1.0728
5	7.180	22.56	16.31	1.5352	1.1350	1177.3	.696	1.0364
6	6.881	22.75	16.28	1.5482	1.1346	1129.8	.708	.9963
7	6.584	22.87	16.21	1.5561	1.1355	1079.0	.718	.9524
8	6.291	22.99	16.10	1.5643	1.1364	1031.2	.731	.9114
9	6.001	23.15	15.94	1.5755	1.1381	987.5	.750	.8743
10	5.720	23.36	15.73	1.5899	1.1399	949.9	.773	.8430
11	5.443	23.01	15.50	1.5657	1.1334	918.0	.773	.8169
12	5.167	22.22	15.25	1.5125	1.1211	887.4	.754	.7919
13	4.887	21.37	14.99	1.4540	1.1093	852.4	.730	.7624
14	4.604	20.56	14.74	1.3990	1.0978	818.5	.706	.7336
15	4.323	19.85	14.50	1.3507	1.0874	785.9	.685	.7058
16	4.046	19.24	14.29	1.3094	1.0782	754.3	.666	.6787
17	3.782	18.72	14.12	1.2738	1.0700	724.1	.647	.6526
18	3.544	18.27	13.99	1.2435	1.0629	696.7	.630	.6287
19	3.350	17.92	13.90	1.2198	1.0572	674.0	.614	.6087
20	3.222	17.70	13.85	1.2044	1.0534	658.6	.602	.5951
21	3.176	17.62	13.83	1.1990	1.0521	653.1	.598	.5902

STATION---- 6.400 IS INSIDE OF A ROTOR WITH INDEX 8

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-6.990	24.11	0.00	0.0000	.0804	.1013
2	8.142	-6.988	24.71	-.15	-.0024	.0808	.1024
3	7.805	-6.993	24.64	.73	.0028	.0813	.1059
4	7.487	-7.001	24.50	2.27	.0039	.0818	.1113
5	7.180	-7.009	24.85	4.07	.0011	.0820	.1214
6	6.881	-7.016	25.52	5.88	-.0038	.0821	.1332
7	6.584	-7.023	26.57	7.62	-.0094	.0820	.1476
8	6.291	-7.032	27.61	9.27	-.0156	.0816	.1606
9	6.001	-7.037	28.72	10.91	-.0239	.0811	.1736
10	5.720	-7.036	29.79	12.60	-.0344	.0804	.1864
11	5.443	-7.034	29.94	14.41	-.0446	.0797	.1993
12	5.167	-7.037	29.39	16.37	-.0519	.0788	.2100
13	4.887	-7.050	28.98	18.43	-.0558	.0778	.2194
14	4.604	-7.073	28.46	20.51	-.0572	.0768	.2260
15	4.323	-7.098	27.94	22.56	-.0535	.0759	.2417
16	4.046	-7.124	27.48	24.54	-.0398	.0751	.2643
17	3.782	-7.150	27.08	26.36	-.0196	.0744	.2842
18	3.544	-7.173	26.69	27.83	.0057	.0739	.3037
19	3.350	-7.193	26.34	28.82	.0337	.0736	.3149
20	3.222	-7.206	26.09	29.32	.0552	.0734	.3217
21	3.176	-7.211	25.99	29.45	.0633	.0733	.3242

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED	LOSS COEF.
1	-63.14	-7.77	1498.3	.1183
2	-59.97	-4.66	1435.3	.1040
3	-56.88	-3.02	1375.9	.0712
4	-53.88	-2.42	1319.7	.0317
5	-50.99	-3.78	1265.7	.0003
6	-48.19	-4.27	1212.8	-.0251
7	-45.55	-3.58	1160.6	-.0414
8	-42.43	-2.65	1108.8	-.0587
9	-39.28	-1.65	1057.9	-.0776
10	-36.68	-1.90	1008.2	-.1018
11	-34.10	-1.89	959.4	-.1321
12	-31.94	-.92	910.7	-.1605
13	-29.70	-.08	861.4	-.1750
14	-27.68	.57	811.6	-.1876
15	-26.03	1.05	761.9	-.1992
16	-24.54	1.44	713.2	-.2093
17	-23.39	2.50	666.7	-.2157
18	-22.50	3.58	624.7	-.2163
19	-21.99	4.12	590.5	-.2120
20	-21.73	4.41	567.9	-.2064
21	-21.65	4.51	559.9	-.2039

STATION----- 6.600 IS INSIDE OF A ROTOR WITH INDEX 9

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-6.603	573.2	572.7	395.6	696.0	617.32	577.06
2	8.141	-6.564	613.6	613.1	420.8	743.6	619.16	573.21
3	7.811	-6.536	658.0	657.7	436.6	789.6	618.73	566.92
4	7.506	-6.516	690.3	690.5	445.7	822.1	616.82	560.64
5	7.217	-6.499	705.7	707.2	457.1	842.4	615.46	556.47
6	6.935	-6.486	711.0	714.3	470.8	855.9	614.46	553.56
7	6.656	-6.475	710.5	716.1	490.4	868.3	614.45	551.75
8	6.380	-6.466	713.4	721.7	512.2	885.3	614.54	549.37
9	6.109	-6.458	719.9	731.3	538.3	908.4	615.14	546.52
10	5.845	-6.444	730.5	745.7	568.3	937.9	616.12	542.97
11	5.589	-6.429	728.3	748.0	574.3	943.5	612.86	538.83
12	5.336	-6.421	713.6	738.8	561.2	928.2	606.54	534.88
13	5.082	-6.428	690.0	721.8	548.5	906.9	600.47	532.05
14	4.822	-6.455	665.2	704.4	533.1	883.7	594.14	529.15
15	4.560	-6.497	638.9	686.5	516.1	859.2	587.77	526.33
16	4.303	-6.543	611.7	669.1	499.9	835.6	581.83	523.72
17	4.057	-6.587	584.1	652.0	485.4	813.2	576.50	521.46
18	3.834	-6.626	557.5	635.4	472.4	792.1	571.87	519.64
19	3.651	-6.658	534.9	620.8	461.3	773.8	568.15	518.30
20	3.528	-6.680	519.5	610.4	453.5	760.7	565.67	517.49
21	3.484	-6.688	513.9	606.6	450.5	755.9	564.79	517.22

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	23.67	18.68	1.6105	1.1901	1242.6	.591	1.0549
2	8.141	24.43	18.64	1.6623	1.1937	1185.2	.633	1.0095
3	7.811	25.24	18.58	1.7177	1.1928	1147.5	.676	.9828
4	7.506	25.86	18.50	1.7597	1.1891	1116.6	.708	.9617
5	7.217	26.22	18.42	1.7845	1.1865	1079.0	.728	.9328
6	6.935	26.41	18.32	1.7975	1.1846	1036.9	.742	.8988
7	6.656	26.50	18.17	1.8032	1.1846	989.5	.754	.8591
8	6.380	26.59	17.96	1.8096	1.1848	946.5	.770	.8236
9	6.109	26.75	17.68	1.8207	1.1859	908.2	.792	.7923
10	5.845	27.02	17.36	1.8390	1.1878	877.3	.821	.7678
11	5.589	26.70	17.01	1.8173	1.1815	853.4	.829	.7498
12	5.336	25.88	16.67	1.7616	1.1693	830.6	.818	.7324
13	5.082	24.92	16.32	1.6960	1.1576	801.0	.802	.7082
14	4.822	23.95	15.97	1.6298	1.1454	772.4	.783	.6848
15	4.560	23.01	15.63	1.5659	1.1331	744.4	.764	.6617
16	4.303	22.17	15.34	1.5087	1.1217	717.3	.745	.6392
17	4.057	21.44	15.09	1.4593	1.1114	691.3	.726	.6173
18	3.834	20.83	14.90	1.4174	1.1025	667.1	.709	.5969
19	3.651	20.34	14.75	1.3845	1.0953	647.0	.693	.5796
20	3.528	20.03	14.67	1.3629	1.0905	633.2	.682	.5677
21	3.484	19.91	14.64	1.3552	1.0888	628.2	.678	.5634

STATION---- 6.600 IS INSIDE OF A ROTOR WITH INDEX 9

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-6.603	34.63	0.00	0.0000	.0874	.1262
2	8.141	-6.564	34.46	.09	.0221	.0878	.1240
3	7.811	-6.536	33.58	1.14	.0281	.0884	.1260
4	7.506	-6.516	32.84	2.65	.0232	.0891	.1307
5	7.217	-6.499	32.88	4.30	.0151	.0894	.1412
6	6.935	-6.486	33.39	5.94	.0077	.0893	.1529
7	6.656	-6.475	34.40	7.49	.0016	.0889	.1671
8	6.380	-6.466	35.36	8.94	-.0038	.0882	.1806
9	6.109	-6.458	36.35	10.35	-.0088	.0873	.1929
10	5.845	-6.444	37.31	11.77	-.0134	.0863	.2046
11	5.589	-6.429	37.52	13.32	-.0162	.0852	.2161
12	5.336	-6.421	37.22	15.15	-.0148	.0841	.2273
13	5.082	-6.428	37.23	17.18	-.0111	.0828	.2391
14	4.822	-6.455	37.12	19.32	-.0070	.0814	.2514
15	4.560	-6.497	36.93	21.58	-.0008	.0802	.2649
16	4.303	-6.543	36.77	24.01	.0092	.0791	.2828
17	4.057	-6.587	36.67	26.48	.0245	.0781	.3028
18	3.834	-6.626	36.63	28.75	.0434	.0774	.3204
19	3.651	-6.658	36.62	30.58	.0632	.0768	.3358
20	3.528	-6.680	36.61	31.76	.0803	.0765	.3469
21	3.484	-6.688	36.60	32.16	.0873	.0764	.3509

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED	LOSS COEF.
1	-61.38	-4.70	1498.3	.1634
2	-56.91	-1.71	1435.0	.1426
3	-53.09	-.68	1376.9	.0965
4	-49.69	-.81	1323.2	.0415
5	-47.00	-2.63	1272.1	-.0025
6	-44.22	-3.35	1222.4	-.0383
7	-41.35	-1.12	1173.3	-.0615
8	-38.22	.53	1124.6	-.0861
9	-34.89	1.52	1076.8	-.1126
10	-31.88	1.36	1030.4	-.1465
11	-28.80	.52	985.2	-.1898
12	-25.76	1.37	940.7	-.2336
13	-22.75	3.04	895.8	-.2604
14	-20.12	3.60	850.1	-.2853
15	-17.92	3.67	803.9	-.3084
16	-16.40	3.38	758.4	-.3303
17	-15.06	2.99	715.1	-.3481
18	-14.43	3.30	675.8	-.3575
19	-14.10	3.73	643.6	-.3580
20	-13.89	4.02	621.9	-.3536
21	-13.82	4.09	614.2	-.3510

STATION----- 6.800 IS INSIDE OF A ROTOR WITH INDEX 10

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-6.204	536.2	535.7	508.7	738.8	645.43	600.13
2	8.144	-6.130	585.6	585.3	530.1	789.8	645.25	593.46
3	7.824	-6.073	637.1	637.1	539.8	835.2	642.49	584.57
4	7.532	-6.029	672.6	673.4	541.8	864.5	638.32	576.25
5	7.257	-5.992	686.7	688.8	547.2	879.9	635.12	570.79
6	6.990	-5.959	689.1	692.9	555.4	888.3	632.54	566.97
7	6.728	-5.931	683.6	689.5	570.7	895.3	631.27	564.66
8	6.467	-5.908	681.4	689.8	588.2	906.8	630.24	561.91
9	6.211	-5.888	682.5	693.7	610.3	924.2	629.86	558.87
10	5.964	-5.864	688.4	702.8	636.7	948.6	630.04	555.24
11	5.727	-5.836	689.9	708.4	649.4	961.3	627.76	550.94
12	5.498	-5.814	683.9	708.0	649.8	961.3	623.46	546.63
13	5.271	-5.807	667.7	699.1	652.4	956.5	619.55	543.48
14	5.043	-5.820	650.6	691.2	653.9	951.8	615.41	540.08
15	4.813	-5.858	630.7	682.5	652.7	944.7	610.85	536.62
16	4.586	-5.913	607.6	672.0	649.5	934.9	606.06	533.36
17	4.371	-5.969	583.0	661.1	646.1	924.7	601.55	530.42
18	4.178	-6.020	559.1	650.7	643.7	915.6	597.60	527.86
19	4.021	-6.061	538.7	642.1	641.7	908.1	594.42	525.80
20	3.917	-6.088	524.9	636.4	640.3	903.1	592.28	524.42
21	3.879	-6.097	520.1	634.5	639.7	901.3	591.53	523.93

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	26.73	20.71	1.8194	1.2443	1125.3	.615	.9368
2	8.144	27.50	20.50	1.8714	1.2440	1078.1	.661	.9025
3	7.824	28.33	20.34	1.9282	1.2386	1053.7	.704	.8888
4	7.532	28.92	20.20	1.9679	1.2306	1034.9	.734	.8792
5	7.257	29.17	20.06	1.9850	1.2244	1005.1	.751	.8580
6	6.990	29.20	19.90	1.9873	1.2194	968.6	.761	.8296
7	6.728	29.11	19.69	1.9809	1.2170	924.1	.768	.7931
8	6.467	29.04	19.43	1.9766	1.2150	883.3	.780	.7600
9	6.211	29.07	19.12	1.9704	1.2143	846.1	.797	.7299
10	5.964	29.25	18.78	1.9903	1.2146	816.0	.821	.7062
11	5.727	29.10	18.42	1.9805	1.2102	794.6	.835	.6904
12	5.498	28.59	18.04	1.9460	1.2020	776.6	.839	.6774
13	5.271	27.90	17.63	1.8987	1.1944	751.9	.837	.6577
14	5.043	27.18	17.20	1.8497	1.1864	730.1	.835	.6407
15	4.813	26.42	16.78	1.7979	1.1776	710.0	.832	.6250
16	4.586	25.66	16.40	1.7461	1.1684	690.5	.826	.6098
17	4.371	24.97	16.07	1.6991	1.1597	672.7	.819	.5956
18	4.178	24.38	15.79	1.6589	1.1521	657.3	.813	.5835
19	4.021	23.91	15.56	1.6271	1.1450	645.6	.808	.5742
20	3.917	23.60	15.41	1.6061	1.1418	638.4	.804	.5685
21	3.879	23.49	15.36	1.5987	1.1404	636.0	.803	.5667

STATION---- 6.800 IS INSIDE OF A ROTOR WITH INDEX 10

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-6.204	43.52	0.00	0.0000	.0931	.1263
2	3.144	-6.130	42.17	.82	.0358	.0932	.1213
3	7.824	-6.073	40.27	2.04	.0396	.0939	.1224
4	7.532	-6.029	38.82	3.46	.0346	.0946	.1258
5	7.257	-5.992	38.46	4.93	.0275	.0948	.1325
6	6.990	-5.959	38.71	6.38	.0211	.0947	.1402
7	6.728	-5.931	39.61	7.79	.0172	.0941	.1504
8	6.467	-5.908	40.46	9.15	.0164	.0933	.1600
9	6.211	-5.888	41.34	10.47	.0160	.0923	.1674
10	5.964	-5.864	42.17	11.78	.0143	.0913	.1744
11	5.727	-5.836	42.52	13.26	.0126	.0902	.1802
12	5.498	-5.814	42.55	15.12	.0130	.0891	.1871
13	5.271	-5.807	43.02	17.34	.0196	.0876	.2011
14	5.043	-5.820	43.41	19.84	.0340	.0860	.2164
15	4.813	-5.858	43.72	22.54	.0485	.0844	.2233
16	4.586	-5.913	44.02	25.36	.0562	.0830	.2294
17	4.371	-5.969	44.34	28.19	.0580	.0818	.2428
18	4.178	-6.020	44.69	30.83	.0576	.0807	.2596
19	4.021	-6.061	44.98	33.02	.0563	.0799	.2745
20	3.917	-6.088	45.17	34.49	.0546	.0793	.2879
21	3.879	-6.097	45.24	35.00	.0538	.0791	.2930

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED	LOSS COEF.
1	-58.51	1.92	1498.3	.2022
2	-53.81	2.82	1435.5	.1731
3	-50.25	2.14	1379.1	.1143
4	-47.19	.99	1327.6	.0459
5	-44.28	-.69	1279.2	-.0086
6	-41.35	-1.09	1232.2	-.0530
7	-38.37	2.63	1185.9	-.0825
8	-35.14	5.55	1140.0	-.1136
9	-31.23	6.72	1094.9	-.1471
10	-27.60	7.50	1051.3	-.1892
11	-23.98	7.41	1009.5	-.2441
12	-20.21	7.51	969.1	-.3037
13	-15.88	8.72	929.2	-.3462
14	-11.78	9.94	889.0	-.3895
15	-9.62	8.31	848.4	-.4328
16	-7.76	6.31	808.3	-.4756
17	-6.32	5.13	770.4	-.5150
18	-5.20	4.42	736.5	-.5445
19	-4.29	3.83	708.8	-.5605
20	-4.00	3.75	690.4	-.5654
21	-3.91	3.74	683.8	-.5658

ROTOR 1 STATION 7.000 FLOW 60.77 ASPECT RATIO 1.42
 STA NO. 11 RPM 20199. TIP SPEED 1498. NO. OF BLADES 20

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-5.775	516.0	515.6	615.2	802.8	671.88	618.44
2	8.154	-5.675	566.1	565.9	621.1	840.4	667.08	608.49
3	7.845	-5.595	620.8	621.3	615.9	875.1	660.28	596.74
4	7.566	-5.531	656.7	658.3	604.2	893.8	652.68	586.36
5	7.305	-5.477	667.7	670.7	597.8	898.6	646.69	579.63
6	7.053	-5.429	665.6	670.1	595.0	896.4	641.71	574.97
7	6.805	-5.388	653.5	659.9	599.9	892.1	638.38	572.27
8	6.560	-5.352	643.7	652.3	607.1	891.4	635.45	569.44
9	6.319	-5.321	636.8	648.1	618.8	896.4	633.34	566.58
10	6.086	-5.290	634.9	649.3	634.5	908.2	631.93	563.39
11	5.866	-5.254	640.4	659.0	656.4	930.4	631.60	559.66
12	5.660	-5.221	644.5	668.7	678.4	952.8	631.30	555.84
13	5.465	-5.199	637.4	668.5	703.7	970.9	631.46	553.11
14	5.278	-5.193	630.7	671.0	729.7	991.6	631.61	549.89
15	5.098	-5.204	624.5	676.2	756.4	1014.8	631.75	546.14
16	4.925	-5.233	617.9	683.0	783.6	1039.7	631.84	541.98
17	4.762	-5.276	608.6	689.2	810.8	1064.3	631.89	537.71
18	4.615	-5.322	595.9	692.6	836.8	1086.5	631.93	533.79
19	4.496	-5.363	581.8	693.3	859.1	1104.1	631.96	530.59
20	4.418	-5.390	570.6	692.6	874.5	1115.7	631.97	528.46
21	4.350	-5.400	566.3	692.1	880.1	1119.8	631.98	527.71

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	29.84	22.30	2.0310	1.2953	1022.6	.658	.8386
2	8.154	30.25	21.91	2.0589	1.2860	993.2	.695	.8211
3	7.845	30.81	21.60	2.0968	1.2729	987.0	.731	.8240
4	7.566	31.09	21.35	2.1159	1.2583	982.6	.753	.8276
5	7.305	31.00	21.12	2.1100	1.2467	962.1	.761	.8150
6	7.053	30.69	20.88	2.0889	1.2371	932.3	.762	.7930
7	6.805	30.26	20.63	2.0597	1.2307	891.6	.761	.7601
8	6.560	29.89	20.35	2.0344	1.2251	852.7	.762	.7268
9	6.319	29.64	20.06	2.0171	1.2210	815.5	.768	.6987
10	6.086	29.56	19.77	2.0115	1.2183	783.4	.780	.6731
11	5.866	29.75	19.47	2.0243	1.2176	759.6	.802	.6548
12	5.660	29.92	19.15	2.0360	1.2171	741.0	.824	.6410
13	5.465	29.88	18.79	2.0336	1.2174	717.2	.842	.6219
14	5.278	29.84	18.36	2.0310	1.2177	700.3	.862	.6091
15	5.098	29.81	17.90	2.0286	1.2179	691.0	.886	.6030
16	4.925	29.79	17.40	2.0271	1.2181	688.2	.911	.6029
17	4.762	29.77	16.92	2.0262	1.2182	689.8	.936	.6066
18	4.615	29.76	16.48	2.0256	1.2183	693.0	.959	.6117
19	4.496	29.76	16.13	2.0251	1.2183	696.5	.978	.6166
20	4.418	29.75	15.90	2.0249	1.2184	699.2	.990	.6203
21	4.390	29.75	15.82	2.0248	1.2184	700.2	.994	.6216

ROTOR 1	STATION	7.000	FLOW	60.77	ASPECT RATIO	1.42
STA NO. 11	RPM	20199.	TIP SPEED	1498.	NO. OF BLADES	20

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSDL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE	D- FACTOR
1	8.500	-5.775	50.03	0.00	0.00000	.0973	.1071	.5190
2	8.154	-5.675	47.66	1.66	.0204	.0972	.1066	.5187
3	7.845	-5.595	44.75	3.10	.0283	.0977	.1065	.5040
4	7.566	-5.531	42.55	4.43	.0258	.0983	.1064	.4992
5	7.305	-5.477	41.71	5.71	.0198	.0983	.1063	.4800
6	7.053	-5.429	41.60	6.96	.0137	.0980	.1063	.4769
7	6.805	-5.388	42.27	8.23	.0094	.0973	.1065	.4832
8	6.560	-5.352	42.94	9.55	.0074	.0965	.1068	.4895
9	6.319	-5.321	43.68	10.90	.0088	.0956	.1070	.4759
10	6.086	-5.290	44.34	12.28	.0140	.0947	.1072	.4986
11	5.866	-5.254	44.89	13.80	.0179	.0939	.1074	.4947
12	5.660	-5.221	45.42	15.58	.0130	.0930	.1077	.4834
13	5.465	-5.199	46.47	17.66	-.0027	.0917	.1090	.4767
14	5.278	-5.193	47.40	20.04	-.0268	.0901	.1121	.4660
15	5.098	-5.204	48.20	22.62	-.0522	.0884	.1153	.4461
16	4.925	-5.233	48.92	25.30	-.0705	.0867	.1247	.4160
17	4.762	-5.276	49.63	28.04	-.0780	.0849	.1396	.3808
18	4.615	-5.322	50.39	30.71	-.0763	.0833	.1539	.3455
19	4.496	-5.363	51.10	32.99	-.0690	.0821	.1668	.3171
20	4.418	-5.390	51.62	34.57	-.0606	.0812	.1827	.2992
21	4.390	-5.400	51.82	35.14	-.0568	.0809	.1884	.2932

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED	INCID- ENCE	DEVIA- TION	LOSS COEF.	ADIAB. EFFIC.	POLYT. EFFIC.
1	-54.32	9.71	1498.3	-7.166	-5.400	.2360	75.87	78.13
2	-50.60	7.26	1437.3	-6.934	-4.663	.1975	80.00	81.91
3	-47.68	5.22	1382.9	-6.242	-3.309	.1379	86.20	87.56
4	-44.89	3.56	1333.7	-6.049	-3.050	.0774	92.36	93.12
5	-41.99	2.57	1287.6	-6.095	-3.817	.0385	96.29	96.66
6	-38.96	3.23	1243.2	-5.851	-5.089	.0142	98.70	98.83
7	-35.60	1.10	1199.5	-5.698	-6.603	.0081	99.31	99.37
8	-32.24	1.42	1156.3	-5.634	-7.850	.0019	99.88	99.89
9	-28.23	14.91	1113.8	-5.551	-9.141	-.0040	100.38	100.34
10	-24.65	17.27	1072.8	-5.767	-9.371	-.0147	101.19	101.08
11	-19.56	18.82	1034.1	-6.136	-10.257	-.0343	102.50	102.27
12	-14.73	20.21	997.8	-6.426	-10.799	-.0558	103.70	103.35
13	-9.44	21.33	963.3	-7.032	-11.791	-.0559	103.37	103.05
14	-3.45	22.14	930.3	-7.777	-13.193	-.0551	103.01	102.73
15	1.55	22.91	898.5	-8.140	-13.419	-.0547	102.70	102.45
16	5.69	22.22	868.1	-8.208	-12.745	-.0558	102.50	102.26
17	9.36	20.32	839.3	-8.488	-11.733	-.0583	102.39	102.16
18	12.49	18.58	813.5	-8.287	-10.568	-.0605	102.30	102.09
19	15.04	17.21	792.6	-8.085	-9.564	-.0619	102.24	102.03
20	16.32	17.00	778.7	-7.741	-8.447	-.0625	102.21	102.00
21	16.76	16.93	773.8	-7.581	-8.030	-.0626	102.19	101.99

FREE STATION 8.000 IS INDEX 12

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-4.889	579.0	578.4	615.2	844.6	671.88	612.72
2	8.184	-4.821	618.4	618.2	618.8	875.0	667.08	603.56
3	7.897	-4.769	665.1	666.1	611.8	904.8	660.28	592.34
4	7.636	-4.722	696.5	698.9	598.7	920.7	652.68	582.30
5	7.390	-4.680	705.7	709.6	590.9	923.8	646.69	575.81
6	7.151	-4.650	702.8	708.3	586.8	920.2	641.71	571.37
7	6.917	-4.628	690.8	698.1	590.2	914.6	638.38	568.89
8	6.686	-4.613	681.3	690.8	595.6	912.6	635.45	566.26
9	6.459	-4.607	675.6	687.9	605.4	916.9	633.34	563.49
10	6.237	-4.609	676.3	692.3	619.1	929.2	631.93	560.18
11	6.025	-4.621	685.5	706.1	639.0	952.8	631.60	556.16
12	5.824	-4.642	693.3	719.5	659.3	976.3	631.30	552.07
13	5.633	-4.672	689.6	722.2	682.7	994.2	631.46	549.29
14	5.449	-4.712	684.7	724.9	706.8	1012.8	631.61	546.34
15	5.274	-4.761	679.2	728.5	731.1	1032.5	631.75	543.14
16	5.111	-4.817	674.0	733.9	755.0	1053.3	631.84	539.61
17	4.963	-4.875	669.2	741.4	777.9	1075.0	631.89	535.82
18	4.835	-4.931	664.3	750.0	798.7	1096.0	631.93	532.06
19	4.735	-4.977	659.6	758.2	815.8	1114.1	631.96	528.76
20	4.671	-5.006	656.0	764.2	827.1	1126.4	631.97	526.48
21	4.649	-5.016	654.6	766.4	831.0	1130.8	631.98	525.65

STRM- LINE NUMBER	RADIUS	TOTAL PRESS	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	29.84	21.59	2.0310	1.2953	844.6	.696	.6959
2	8.184	30.25	21.29	2.0589	1.2860	875.0	.726	.7264
3	7.897	30.81	21.05	2.0968	1.2729	904.8	.758	.7582
4	7.636	31.09	20.84	2.1159	1.2583	920.7	.778	.7781
5	7.390	31.00	20.64	2.1100	1.2467	923.8	.785	.785
6	7.151	30.69	20.43	2.0889	1.2371	920.2	.785	.7851
7	6.917	30.26	20.21	2.0597	1.2307	914.6	.782	.7820
8	6.686	29.89	19.96	2.0344	1.2251	912.6	.782	.7821
9	6.459	29.64	19.66	2.0171	1.2210	916.9	.788	.7877
10	6.237	29.56	19.37	2.0115	1.2183	929.2	.801	.8007
11	6.025	29.75	19.05	2.0243	1.2176	952.8	.824	.8239
12	5.824	29.92	18.70	2.0360	1.2171	976.3	.847	.8474
13	5.633	29.88	18.34	2.0336	1.2174	994.2	.865	.8651
14	5.449	29.84	17.95	2.0310	1.2177	1012.8	.884	.8837
15	5.274	29.81	17.55	2.0286	1.2179	1032.5	.903	.9035
16	5.111	29.79	17.14	2.0271	1.2181	1053.3	.925	.9247
17	4.963	29.77	16.71	2.0262	1.2182	1075.0	.947	.9471
18	4.835	29.76	16.29	2.0256	1.2183	1096.0	.969	.9690
19	4.735	29.76	15.94	2.0251	1.2183	1114.1	.988	.9881
20	4.671	29.75	15.69	2.0249	1.2184	1126.4	1.001	1.0012
21	4.649	29.75	15.61	2.0248	1.2184	1130.8	1.006	1.0058

FREE STATION 8.000 IS INDEX 12

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-4.889	46.77	0.00	0.0000	.0951	.0974
2	8.184	-4.821	45.03	2.29	.0126	.0952	.0969
3	7.897	-4.769	42.57	4.02	.0209	.0959	.0967
4	7.636	-4.722	40.58	5.34	.0230	.0966	.0966
5	7.390	-4.680	39.79	6.46	.0210	.0967	.0965
6	7.151	-4.650	39.64	7.52	.0167	.0965	.0966
7	6.917	-4.628	40.21	8.62	.0118	.0959	.0967
8	6.686	-4.613	40.77	9.82	.0074	.0951	.0969
9	6.459	-4.607	41.35	11.12	.0033	.0943	.0972
10	6.237	-4.609	41.81	12.53	-.0003	.0933	.0975
11	6.025	-4.621	42.15	14.06	-.0037	.0924	.0979
12	5.824	-4.642	42.50	15.68	-.0078	.0914	.0984
13	5.633	-4.672	43.39	17.42	-.0130	.0901	.0990
14	5.449	-4.712	44.27	19.30	-.0200	.0887	.0996
15	5.274	-4.761	45.10	21.30	-.0297	.0872	.1004
16	5.111	-4.817	45.81	23.41	-.0456	.0857	.1011
17	4.963	-4.875	46.38	25.60	-.0707	.0842	.1018
18	4.835	-4.931	46.80	27.75	-.1019	.0826	.1025
19	4.735	-4.977	47.10	29.62	-.1320	.0813	.1031
20	4.671	-5.006	47.26	30.93	-.1543	.0805	.1035
21	4.649	-5.016	47.32	31.41	-.1626	.0801	.1036

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE
1	41.53	5.73
2	39.17	3.89
3	37.68	2.21
4	37.34	.72
5	37.61	-.65
6	37.20	-1.83
7	36.68	-3.14
8	35.99	-4.59
9	36.20	-6.56
10	36.58	-8.61
11	37.17	-10.82
12	37.85	-13.12
13	38.63	-15.59
14	39.58	-18.52
15	40.74	-21.79
16	41.78	-25.21
17	42.69	-28.73
18	43.36	-31.59
19	44.27	-33.71
20	44.84	-35.02
21	45.03	-35.46

STATOR 1 STATION 9.000 FLOW 60.77 ASPECT RATIO 1.40
 STA NO. 14 NO VANES 31

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-2.220	728.0	728.0	0.0	727.9	671.88	627.96
2	8.262	-2.240	731.6	731.6	0.0	731.6	667.08	622.70
3	8.034	-2.261	737.0	737.2	0.0	737.2	660.28	615.21
4	7.815	-2.283	742.6	743.1	0.0	743.1	652.68	606.85
5	7.604	-2.304	734.1	735.0	0.0	735.0	646.69	601.85
6	7.397	-2.325	720.9	722.2	0.0	722.2	641.71	598.41
7	7.195	-2.347	708.9	710.7	0.0	710.7	638.38	596.44
8	6.999	-2.368	701.0	703.3	0.0	703.4	635.45	594.37
9	6.809	-2.387	697.0	700.0	0.0	700.1	633.34	592.64
10	6.631	-2.404	706.4	710.1	0.0	710.2	631.93	590.04
11	6.465	-2.420	721.1	725.8	0.0	725.9	631.60	587.84
12	6.314	-2.435	731.3	737.0	0.0	737.1	631.30	586.17
13	6.176	-2.448	737.6	744.4	0.0	744.5	631.46	585.42
14	6.052	-2.460	744.0	751.9	0.0	752.0	631.61	584.64
15	5.943	-2.471	750.5	759.6	0.0	759.8	631.75	583.80
16	5.849	-2.480	756.8	767.2	0.0	767.3	631.84	582.94
17	5.771	-2.489	762.3	773.8	0.0	773.9	631.89	582.14
18	5.710	-2.497	766.7	779.2	0.0	779.4	631.93	581.47
19	5.666	-2.502	770.0	783.3	0.0	783.4	631.96	580.97
20	5.639	-2.506	772.0	785.8	0.0	785.9	631.97	580.66
21	5.630	-2.507	772.6	786.6	0.0	786.8	631.98	580.56

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	29.57	23.32	.9908	1.0000	727.9	.592	.5924
2	8.262	29.66	23.29	.9803	1.0000	731.6	.598	.5979
3	8.034	29.79	23.24	.9668	1.0000	737.2	.606	.6061
4	7.815	29.92	23.17	.9622	1.0000	743.1	.615	.6152
5	7.604	29.71	23.09	.9583	1.0000	735.0	.611	.6110
6	7.397	29.38	23.00	.9574	1.0000	722.2	.602	.6021
7	7.195	29.06	22.90	.9602	1.0000	710.7	.593	.5935
8	6.999	28.80	22.79	.9636	1.0000	703.4	.588	.5884
9	6.809	28.61	22.67	.9653	1.0000	700.1	.586	.5865
10	6.631	28.66	22.54	.9698	1.0000	710.2	.596	.5963
11	6.465	28.81	22.39	.9684	1.0000	725.9	.611	.6106
12	6.314	28.85	22.24	.9643	1.0000	737.1	.621	.6209
13	6.176	28.80	22.09	.9639	1.0000	744.5	.628	.6275
14	6.052	28.76	21.93	.9638	1.0000	752.0	.634	.6343
15	5.943	28.73	21.79	.9640	1.0000	759.8	.641	.6413
16	5.849	28.72	21.65	.9642	1.0000	767.3	.648	.6481
17	5.771	28.71	21.53	.9641	1.0000	773.9	.654	.6542
18	5.710	28.69	21.43	.9641	1.0000	779.4	.659	.6591
19	5.666	28.69	21.36	.9640	1.0000	783.4	.663	.6629
20	5.639	28.68	21.32	.9640	1.0000	785.9	.665	.6651
21	5.630	28.68	21.30	.9640	1.0000	786.8	.666	.6659

STATOR	1	STATION	9.000	FLOW	60.77	ASPECT RATIO	1.40
STA NO.	14					NO VANES	31

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE	D- FACTOR
1	8.500	-2.220	0.00	0.00	0.0000	.1002	.0698	.3754
2	8.262	-2.240	0.00	.83	-.0106	.1009	.0697	.3935
3	8.034	-2.261	0.00	1.58	-.0184	.1019	.0697	.4037
4	7.815	-2.283	0.00	2.26	-.0243	.1031	.0697	.4012
5	7.604	-2.304	0.00	2.90	-.0298	.1035	.0697	.4045
6	7.397	-2.325	0.00	3.52	-.0349	.1037	.0697	.4108
7	7.195	-2.347	0.00	4.12	-.0403	.1036	.0698	.4182
8	6.999	-2.368	0.00	4.72	-.0469	.1035	.0699	.4253
9	6.809	-2.387	0.00	5.33	-.0544	.1032	.0700	.4337
10	6.631	-2.404	0.00	5.95	-.0631	.1031	.0702	.4290
11	6.465	-2.420	0.00	6.59	-.0727	.1028	.0704	.4268
12	6.314	-2.435	0.00	7.20	-.0818	.1024	.0706	.4279
13	6.176	-2.448	0.00	7.80	-.0902	.1018	.0708	.4301
14	6.052	-2.460	0.00	8.39	-.0981	.1013	.0710	.4317
15	5.943	-2.471	0.00	8.95	-.1052	.1007	.0712	.4333
16	5.849	-2.480	0.00	9.46	-.1115	.1002	.0713	.4355
17	5.771	-2.489	0.00	9.93	-.1168	.0998	.0714	.4385
18	5.710	-2.497	0.00	10.31	-.1210	.0995	.0714	.4423
19	5.666	-2.502	0.00	10.61	-.1240	.0992	.0714	.4462
20	5.639	-2.506	0.00	10.79	-.1258	.0991	.0714	.4491
21	5.630	-2.507	0.00	10.85	-.1264	.0990	.0714	.4502

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	INCID- ENCE	DEVIA- TION	LOSS COEF.	ADIAB. EFFIC.	POLYT. EFFIC.
1	-8.96	-.02	5.240	8.961	.0334	74.77	77.10
2	-8.28	-.02	5.858	8.279	.0664	77.58	79.66
3	-7.73	-.01	4.884	7.725	.1048	81.86	83.56
4	-7.35	-.00	3.241	7.346	.1146	87.11	88.33
5	-7.08	.00	2.175	7.078	.1247	90.23	91.14
6	-6.86	.00	2.441	6.856	.1275	92.27	92.98
7	-6.72	.00	3.532	6.717	.1198	93.16	93.78
8	-6.59	-.00	4.782	6.593	.1095	94.15	94.69
9	-6.50	-.00	5.151	6.501	.1032	94.84	95.30
10	-6.41	-.00	5.227	6.410	.0877	96.31	96.64
11	-6.38	-.01	4.980	6.375	.0877	97.38	97.61
12	-6.34	-.01	4.648	6.344	.0952	97.88	98.07
13	-6.34	-.01	4.762	6.339	.0934	97.49	97.71
14	-6.35	-.01	4.690	6.347	.0909	97.12	97.38
15	-6.35	-.01	4.359	6.348	.0877	96.85	97.13
16	-6.37	-.01	4.036	6.375	.0844	96.68	96.98
17	-6.46	-.02	3.690	6.456	.0818	96.57	96.88
18	-6.52	-.03	3.444	6.516	.0794	96.48	96.79
19	-6.56	-.04	2.82	6.556	.0774	96.41	96.74
20	-6.58	-.04	2.422	6.579	.0761	96.38	96.70
21	-6.59	-.04	2.285	6.586	.0757	96.36	96.69

FREE STATION 10.000 IS INDEX 14

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-1.650	717.9	717.9	0.0	717.9	671.88	629.16
2	8.269	-1.650	720.6	720.7	0.0	720.7	667.08	624.02
3	8.047	-1.650	725.0	725.1	0.0	725.1	660.28	616.67
4	7.836	-1.650	729.8	730.1	0.0	730.1	652.68	608.45
5	7.632	-1.650	720.3	720.8	0.0	720.8	646.69	603.57
6	7.432	-1.650	706.2	706.8	0.0	706.8	641.71	600.24
7	7.237	-1.650	693.4	694.2	0.0	694.2	638.38	598.57
8	7.048	-1.650	684.8	685.9	0.0	685.9	635.45	596.39
9	6.866	-1.650	680.4	681.7	0.0	681.7	633.34	594.75
10	6.695	-1.650	690.0	691.5	0.0	691.5	631.93	592.22
11	6.537	-1.650	705.5	707.2	0.0	707.2	631.60	590.06
12	6.393	-1.650	716.8	718.8	0.0	718.7	631.30	588.39
13	6.263	-1.650	725.0	727.1	0.0	727.1	631.46	587.55
14	6.146	-1.650	734.1	736.3	0.0	736.3	631.61	586.56
15	6.044	-1.650	744.4	746.7	0.0	746.7	631.75	585.45
16	5.957	-1.650	755.2	757.5	0.0	757.5	631.64	584.18
17	5.885	-1.650	765.6	767.9	0.0	767.9	631.89	582.92
18	5.829	-1.650	774.7	777.0	0.0	777.0	631.93	581.78
19	5.789	-1.650	782.0	784.2	0.0	784.2	631.96	580.87
20	5.765	-1.650	786.6	788.8	0.0	788.8	631.97	580.29
21	5.757	-1.650	788.2	790.4	0.0	790.4	631.98	580.08

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	29.57	23.47	2.0122	1.2953	717.9	.584	.5837
2	8.269	29.66	23.46	2.0184	1.2860	720.7	.588	.5884
3	8.047	29.79	23.43	2.0271	1.2729	725.1	.596	.5955
4	7.836	29.92	23.39	2.0359	1.2583	730.1	.604	.6036
5	7.632	29.71	23.32	2.0220	1.2467	720.8	.598	.5983
6	7.432	29.38	23.24	1.9998	1.2371	706.8	.588	.5884
7	7.237	29.06	23.16	1.9776	1.2307	694.2	.579	.5788
8	7.048	28.80	23.06	1.9603	1.2251	685.9	.573	.5728
9	6.866	28.61	22.95	1.9472	1.2210	681.7	.570	.5701
10	6.695	28.66	22.83	1.9507	1.2183	691.5	.579	.5795
11	6.537	28.81	22.69	1.9604	1.2176	707.2	.594	.5937
12	6.393	28.85	22.54	1.9633	1.2171	718.7	.604	.6043
13	6.263	28.80	22.37	1.9602	1.2174	727.1	.612	.6117
14	6.146	28.76	22.19	1.9574	1.2177	736.3	.620	.6200
15	6.044	28.73	22.00	1.9555	1.2179	746.7	.629	.6293
16	5.957	28.72	21.81	1.9544	1.2181	757.5	.639	.6392
17	5.885	28.71	21.63	1.9535	1.2182	767.9	.649	.6486
18	5.829	28.69	21.47	1.9528	1.2183	777.0	.657	.6570
19	5.789	28.69	21.35	1.9523	1.2183	784.2	.664	.6636
20	5.765	28.68	21.27	1.9520	1.2184	788.8	.668	.6678
21	5.757	28.68	21.24	1.9519	1.2184	790.4	.669	.6693

FREE STATION 10.000 IS INDEX 14

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.300	-1.650	0.00	0.00	0.0000	.1007	.0342
2	8.269	-1.650	0.00	.56	-.0081	.1015	.0342
3	8.047	-1.650	0.00	1.08	-.0158	.1026	.0342
4	7.836	-1.650	0.00	1.55	-.0236	.1037	.0342
5	7.632	-1.650	0.00	1.99	-.0313	.1043	.0342
6	7.432	-1.650	0.00	2.41	-.0384	.1045	.0342
7	7.237	-1.650	0.00	2.80	-.0453	.1045	.0342
8	7.048	-1.650	0.00	3.16	-.0527	.1044	.0342
9	6.866	-1.650	0.00	3.49	-.0613	.1042	.0342
10	6.695	-1.650	0.00	3.78	-.0719	.1040	.0342
11	6.537	-1.650	0.00	4.01	-.0850	.1038	.0342
12	6.393	-1.650	0.00	4.19	-.1004	.1034	.0342
13	6.263	-1.650	0.00	4.33	-.1181	.1028	.0342
14	6.146	-1.650	0.00	4.41	-.1382	.1021	.0342
15	6.044	-1.650	0.00	4.45	-.1600	.1014	.0342
16	5.957	-1.650	0.00	4.44	-.1826	.1008	.0342
17	5.885	-1.650	0.00	4.40	-.2046	.1002	.0342
18	5.829	-1.650	0.00	4.35	-.2244	.0996	.0342
19	5.789	-1.650	0.00	4.29	-.2402	.0992	.0342
20	5.765	-1.650	0.00	4.25	-.2504	.0989	.0342
21	5.757	-1.650	0.00	4.24	-.2539	.0988	.0342

FREE STATION 11.000 IS INDEX 15

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-1.350	736.4	736.4	0.0	736.4	671.88	626.93
2	8.272	-1.350	738.7	738.7	0.0	738.7	667.08	621.83
3	8.052	-1.350	742.2	742.3	0.0	742.3	660.28	614.57
4	7.842	-1.350	745.9	746.0	0.0	746.0	652.68	606.49
5	7.640	-1.350	735.3	735.6	0.0	735.6	646.69	601.78
6	7.442	-1.350	720.0	720.3	0.0	720.3	641.71	598.64
7	7.249	-1.350	705.7	706.1	0.0	706.0	638.38	596.99
8	7.061	-1.350	695.3	695.8	0.0	695.8	635.45	595.25
9	6.880	-1.350	688.9	689.4	0.0	689.4	633.34	593.88
10	6.709	-1.350	695.8	696.3	0.0	696.3	631.93	591.66
11	6.551	-1.350	708.0	708.6	0.0	708.6	631.60	589.90
12	6.407	-1.350	715.4	715.9	0.0	715.9	631.30	588.74
13	6.276	-1.350	718.5	718.9	0.0	718.9	631.46	588.53
14	6.158	-1.350	721.4	721.7	0.0	721.7	631.61	588.35
15	6.054	-1.350	724.3	724.5	0.0	724.5	631.75	588.15
16	5.965	-1.350	726.8	726.9	0.0	726.9	631.84	587.96
17	5.891	-1.350	728.3	728.4	0.0	728.4	631.89	587.83
18	5.832	-1.350	729.1	729.1	0.0	729.1	631.93	587.78
19	5.791	-1.350	729.2	729.2	0.0	729.3	631.96	587.79
20	5.765	-1.350	729.2	729.2	0.0	729.2	631.97	587.81
21	5.757	-1.350	729.1	729.1	0.0	729.1	631.98	587.83

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	29.57	23.18	2.0122	1.2953	736.4	.600	.5998
2	8.272	29.66	23.17	2.0184	1.2860	738.7	.604	.6042
3	8.052	29.79	23.15	2.0271	1.2729	742.3	.611	.6107
4	7.842	29.92	23.12	2.0359	1.2583	746.0	.618	.6178
5	7.640	29.71	23.08	2.0220	1.2467	735.6	.612	.6115
6	7.442	29.38	23.03	1.9998	1.2371	720.3	.600	.6004
7	7.249	29.06	22.97	1.9776	1.2307	706.0	.589	.5893
8	7.061	28.80	22.90	1.9603	1.2251	695.8	.582	.5816
9	6.880	28.61	22.83	1.9472	1.2210	689.4	.577	.5769
10	6.709	28.66	22.75	1.9507	1.2183	696.3	.584	.5838
11	6.551	28.81	22.67	1.9604	1.2176	708.6	.595	.5950
12	6.407	28.85	22.59	1.9633	1.2171	715.9	.602	.6017
13	6.276	28.80	22.50	1.9602	1.2174	718.9	.604	.6044
14	6.158	28.76	22.43	1.9574	1.2177	721.7	.607	.6068
15	6.054	28.73	22.36	1.9555	1.2179	724.5	.609	.6093
16	5.965	28.72	22.31	1.9544	1.2181	726.9	.611	.6114
17	5.891	28.71	22.28	1.9535	1.2182	728.4	.613	.6127
18	5.832	28.69	22.26	1.9528	1.2183	729.1	.613	.6133
19	5.791	28.69	22.25	1.9523	1.2183	729.3	.613	.6134
20	5.765	28.68	22.25	1.9520	1.2184	729.2	.613	.6134
21	5.757	28.68	22.25	1.9519	1.2184	729.1	.613	.6133

FREE STATION 11.000 IS INDEX 15

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-1.350	0.00	0.00	0.0000	.0998	.0399
2	8.272	-1.350	0.00	.40	-.0058	.1006	.0399
3	8.052	-1.350	0.00	.77	-.0114	.1017	.0399
4	7.842	-1.350	0.00	1.09	-.0166	.1029	.0399
5	7.640	-1.350	0.00	1.37	-.0217	.1035	.0399
6	7.442	-1.350	0.00	1.64	-.0267	.1038	.0399
7	7.249	-1.350	0.00	1.88	-.0317	.1038	.0399
8	7.061	-1.350	0.00	2.08	-.0366	.1039	.0399
9	6.880	-1.350	0.00	2.22	-.0416	.1038	.0399
10	6.709	-1.350	0.00	2.29	-.0464	.1038	.0399
11	6.551	-1.350	0.00	2.26	-.0508	.1037	.0399
12	6.407	-1.350	0.00	2.16	-.0540	.1035	.0399
13	6.276	-1.350	0.00	1.98	-.0555	.1032	.0399
14	6.158	-1.350	0.00	1.74	-.0543	.1029	.0399
15	6.054	-1.350	0.00	1.44	-.0499	.1026	.0399
16	5.965	-1.350	0.00	1.10	-.0423	.1024	.0399
17	5.891	-1.350	0.00	.77	-.0320	.1023	.0399
18	5.832	-1.350	0.00	.46	-.0206	.1022	.0399
19	5.791	-1.350	0.00	.22	-.0101	.1022	.0399
20	5.765	-1.350	0.00	.06	-.0027	.1022	.0399
21	5.757	-1.350	0.00	0.00	0.0000	.1022	.0399

FREE STATION 12.000 IS INDEX 16

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-1.050	754.6	754.6	0.0	754.6	671.88	624.68
2	8.274	-1.050	756.5	756.5	0.0	756.6	667.08	619.62
3	8.056	-1.050	759.3	759.3	0.0	759.3	660.28	612.46
4	7.847	-1.050	761.7	761.8	0.0	761.8	652.68	604.51
5	7.646	-1.050	750.1	750.2	0.0	750.2	646.69	599.97
6	7.449	-1.050	733.4	733.6	0.0	733.6	641.71	597.03
7	7.257	-1.050	717.6	717.8	0.0	717.9	638.38	595.59
8	7.070	-1.050	705.4	705.6	0.0	705.7	635.45	594.10
9	6.889	-1.050	696.7	697.0	0.0	697.0	633.34	592.99
10	6.719	-1.050	701.0	701.2	0.0	701.3	631.93	591.08
11	6.561	-1.050	710.4	710.6	0.0	710.6	631.60	589.66
12	6.416	-1.050	714.7	714.9	0.0	714.9	631.30	588.05
13	6.284	-1.050	714.7	714.8	0.0	714.9	631.46	589.01
14	6.164	-1.050	714.6	714.7	0.0	714.7	631.61	589.19
15	6.059	-1.050	714.7	714.8	0.0	714.8	631.75	589.31
16	5.968	-1.050	715.0	715.0	0.0	715.1	631.84	589.38
17	5.893	-1.050	715.0	715.0	0.0	715.0	631.89	589.43
18	5.834	-1.050	714.8	714.8	0.0	714.8	631.93	589.49
19	5.791	-1.050	714.6	714.6	0.0	714.6	631.96	589.54
20	5.766	-1.050	714.4	714.4	0.0	714.4	631.97	589.58
21	5.757	-1.050	714.3	714.3	0.0	714.4	631.98	589.60

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	29.57	22.89	2.0122	1.2953	754.6	.616	.6157
2	8.274	29.66	22.89	2.0184	1.2860	756.6	.620	.6198
3	8.056	29.79	22.88	2.0271	1.2729	759.3	.626	.6257
4	7.847	29.92	22.86	2.0359	1.2583	761.8	.632	.6319
5	7.646	29.71	22.84	2.0220	1.2467	750.2	.625	.6246
6	7.449	29.38	22.81	1.9998	1.2371	733.6	.612	.6123
7	7.257	29.06	22.78	1.9776	1.2307	717.9	.600	.5999
8	7.070	28.80	22.75	1.9603	1.2251	705.7	.590	.5904
9	6.889	28.61	22.71	1.9472	1.2210	697.0	.584	.5837
10	6.719	28.66	22.68	1.9507	1.2183	701.3	.588	.5883
11	6.561	28.81	22.64	1.9604	1.2176	710.6	.597	.5960
12	6.416	28.85	22.60	1.9633	1.2171	714.9	.601	.6008
13	6.284	28.80	22.57	1.9602	1.2174	714.9	.601	.6007
14	6.164	28.76	22.54	1.9574	1.2177	714.7	.600	.6005
15	6.059	28.73	22.52	1.9555	1.2179	714.8	.601	.6005
16	5.968	28.72	22.50	1.9544	1.2181	715.1	.601	.6007
17	5.893	28.71	22.49	1.9535	1.2182	715.0	.601	.6006
18	5.834	28.69	22.49	1.9528	1.2183	714.8	.600	.6004
19	5.791	28.69	22.48	1.9523	1.2183	714.6	.600	.6002
20	5.766	28.68	22.48	1.9520	1.2184	714.4	.600	.6000
21	5.757	28.68	22.48	1.9519	1.2184	714.4	.600	.6000

FREE STATION 12.000 IS INDEX 16

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-1.050	0.00	0.00	0.0000	.0989	.0466
2	8.274	-1.050	0.00	.33	-.0031	.0997	.0466
3	8.056	-1.050	0.00	.62	-.0060	.1008	.0466
4	7.847	-1.050	0.00	.87	-.0088	.1021	.0466
5	7.646	-1.050	0.00	1.09	-.0114	.1027	.0466
6	7.449	-1.050	0.00	1.29	-.0139	.1031	.0466
7	7.257	-1.050	0.00	1.46	-.0163	.1032	.0466
8	7.070	-1.050	0.00	1.60	-.0186	.1034	.0466
9	6.889	-1.050	0.00	1.68	-.0206	.1034	.0466
10	6.719	-1.050	0.00	1.69	-.0221	.1035	.0466
11	6.561	-1.050	0.00	1.63	-.0229	.1036	.0466
12	6.416	-1.050	0.00	1.50	-.0229	.1036	.0466
13	6.284	-1.050	0.00	1.32	-.0218	.1034	.0466
14	6.164	-1.050	0.00	1.10	-.0196	.1032	.0466
15	6.059	-1.050	0.00	.87	-.0164	.1031	.0466
16	5.968	-1.050	0.00	.63	-.0126	.1030	.0466
17	5.893	-1.050	0.00	.42	-.0086	.1030	.0466
18	5.834	-1.050	0.00	.24	-.0050	.1030	.0466
19	5.791	-1.050	0.00	.11	-.0023	.1029	.0466
20	5.766	-1.050	0.00	.03	-.0006	.1029	.0466
21	5.757	-1.050	0.00	0.00	0.0000	.1029	.0466

FREE STATION 13.000 IS INDEX 17

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-.750	772.5	772.5	0.0	772.5	671.88	622.40
2	8.275	-.750	774.1	774.0	0.0	774.1	667.08	617.39
3	8.059	-.750	775.9	775.9	0.0	776.0	660.28	610.33
4	7.851	-.750	777.2	777.2	0.0	777.3	652.68	602.54
5	7.651	-.750	764.4	764.5	0.0	764.5	646.69	598.17
6	7.456	-.750	746.5	746.6	0.0	746.6	641.71	595.43
7	7.264	-.750	729.1	729.2	0.0	729.3	638.38	594.22
8	7.077	-.750	715.0	715.2	0.0	715.2	635.45	592.97
9	6.897	-.750	704.2	704.4	0.0	704.4	633.34	592.13
10	6.727	-.750	706.0	706.2	0.0	706.3	631.93	590.50
11	6.568	-.750	712.9	713.1	0.0	713.1	631.60	589.36
12	6.423	-.750	714.9	715.0	0.0	715.1	631.30	588.83
13	6.290	-.750	712.8	712.9	0.0	712.9	631.46	589.24
14	6.169	-.750	710.9	710.9	0.0	710.9	631.61	589.63
15	6.063	-.750	709.6	709.6	0.0	709.6	631.75	589.93
16	5.971	-.750	708.9	708.9	0.0	708.9	631.84	590.10
17	5.895	-.750	708.3	708.2	0.0	708.3	631.89	590.23
18	5.835	-.750	707.8	707.7	0.0	707.8	631.93	590.32
19	5.792	-.750	707.4	707.4	0.0	707.4	631.96	590.39
20	5.766	-.750	707.2	707.2	0.0	707.2	631.97	590.43
21	5.757	-.750	707.2	707.1	0.0	707.2	631.98	590.45

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	29.57	22.60	2.0122	1.2953	772.5	.632	.6315
2	8.275	29.66	22.60	2.0184	1.2860	774.1	.635	.6353
3	8.059	29.79	22.60	2.0271	1.2729	776.0	.641	.6405
4	7.851	29.92	22.60	2.0359	1.2583	777.3	.646	.6458
5	7.651	29.71	22.60	2.0220	1.2467	764.5	.637	.6375
6	7.456	29.30	22.60	1.9998	1.2371	746.6	.624	.6240
7	7.264	29.06	22.60	1.9776	1.2307	729.3	.610	.6101
8	7.077	28.80	22.60	1.9603	1.2251	715.2	.599	.5990
9	6.897	28.61	22.60	1.9472	1.2210	704.4	.590	.5904
10	6.727	28.66	22.60	1.9507	1.2183	706.3	.593	.5927
11	6.568	28.81	22.60	1.9604	1.2176	713.1	.599	.5991
12	6.423	28.85	22.60	1.9633	1.2171	715.1	.601	.6010
13	6.290	28.80	22.60	1.9602	1.2174	712.9	.599	.5989
14	6.169	28.76	22.60	1.9574	1.2177	710.9	.597	.5971
15	6.063	28.73	22.60	1.9555	1.2179	709.6	.596	.5959
16	5.971	28.72	22.60	1.9544	1.2181	708.9	.595	.5952
17	5.895	28.71	22.60	1.9535	1.2182	708.3	.595	.5946
18	5.835	28.69	22.60	1.9528	1.2183	707.8	.594	.5941
19	5.792	28.69	22.60	1.9523	1.2183	707.4	.594	.5938
20	5.766	28.68	22.60	1.9520	1.2184	707.2	.594	.5936
21	5.757	28.68	22.60	1.9519	1.2184	707.2	.594	.5935

FREE STATION 13.000 IS INDEX 17

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-.750	0.00	0.00	0.0000	.0980	.0534
2	8.275	-.750	0.00	.30	0.0000	.0988	.0534
3	8.059	-.750	0.00	.57	0.0000	.0999	.0534
4	7.851	-.750	0.00	.79	0.0000	.1012	.0534
5	7.651	-.750	0.00	.98	0.0000	.1020	.0534
6	7.456	-.750	0.00	1.16	0.0000	.1024	.0534
7	7.264	-.750	0.00	1.31	0.0000	.1026	.0534
8	7.077	-.750	0.00	1.43	0.0000	.1029	.0534
9	6.897	-.750	0.00	1.50	0.0000	.1030	.0534
10	6.727	-.750	0.00	1.50	0.0000	.1033	.0534
11	6.568	-.750	0.00	1.43	0.0000	.1035	.0534
12	6.423	-.750	0.00	1.30	0.0000	.1036	.0534
13	6.290	-.750	0.00	1.13	0.0000	.1035	.0534
14	6.169	-.750	0.00	.93	0.0000	.1034	.0534
15	6.063	-.750	0.00	.72	0.0000	.1034	.0534
16	5.971	-.750	0.00	.52	0.0000	.1034	.0534
17	5.895	-.750	0.00	.34	0.0000	.1033	.0534
18	5.835	-.750	0.00	.20	0.0000	.1033	.0534
19	5.792	-.750	0.00	.09	0.0000	.1033	.0534
20	5.766	-.750	0.00	.02	0.0000	.1033	.0534
21	5.757	-.750	0.00	0.00	0.0000	.1033	.0534

870909006 - PBS ROTOR #4 AERODYNAMIC ANALYSIS - THRU BLADE

THE MAXIMUM ROTOR D-FACTOR .519 OCCURED AT STAGE 1 ON STREAMLINE 1.
 THE MAXIMUM VANE D-FACTOR .450 OCCURED AT STAGE 1 ON STREAMLINE 21.

THE MAXIMUM MERIDINAL MACH NO. .789 OCCURED AT STATION 6
 ON STREAMLINE 5.

PERFORMANCE SUMMARY FOR 870909006:

	SPEC FLOW IN	FLOW RATE IN	CORR FLOW IN	-----S T A G E-----				---CUMULATIVE---		
				P/P	ADIA EFF.	POLY EFF.	VANE TO VANE	P/P	ADIA EFF.	POLY EFF.
REFERENCE		60.77	60.78							
ROTOR 1	42.74	60.77	60.78	2.058	94.6	95.1	95.1	2.058	94.6	95.
STAGE 1	29.78	60.77	32.92	1.988	89.6	90.6		1.988	89.6	90.

	ENTROPY RISE	MASS AVERAGED TOTAL PRESS -URE	MASS AVERAGED TOTAL TEMP -ATURE	ROTOR TIP MACH NO.	VANE HUB MACH NO.	RESET ANGLE
REFERENCE		14.69	518.71			
ROTOR 1	1.1	30.23	644.12	.84		
STAGE 1	2.0	29.21	644.15		.67	

CORRECTED RPM 20199.
 FLOW COEF. .244
 OVERALL ADIA. EFF. 89.62
 ST COEF. .748
 WORK COEF. .835
 FLOW 60.77
 RPM 20199.3
 PRESSURE RATIO 1.988
 EFFICIENCY 89.62

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